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DETROIT'S MUNICIPAL SOLID WASTE MANAGEMENT SYSTEM: A CASE STUDY

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This study examines solid waste collection and disposal in Detroit, Michigan. The background of the system, including location, geography, demography, climate, form of government, and the solid waste management agencies, is described, and the characteristics of the system, including the services, equipment, and finances, are discussed.

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A Case Study

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FOREWORD

Solid waste management systems are an integral part of the environment of nearly every citizen in the United States. Yet until recent years, these systems have not received the attention other visible residential services have enjoyed. This historical neglect has resulted in systems which may not be cost-effective, especially with respect to the rising cost trends encountered in solid waste management activities. These trends arise from two principal factors:

- Environmentally sound disposal methodology is being enforced or strongly encouraged; as a result, disposal sites and needed equipment are now expensive to procure and operate.
- The collection function is highly labor intensive. Thus, the costs of unskilled labor, which have been rising to meet socioeconomic demands, have had enormous impacts on local agency budgets.

This rise in cost pressure has forced all levels of governmental organizations to consider more closely the management and costs of solid waste management activities.

Because efforts to upgrade solid waste management practices are in their infancy, there is still an obvious lack of data bases for evaluative and comparative analyses. This case study is one in a series of case studies of solid waste management systems which has been conducted under the sponsorship of the Office of Solid Waste Management Programs, U. S. Environmental Protection Agency. Kenneth Shuster and Cindy McLaren served as EPA project officers on the case study reported herein. The purpose of these case studies is to fill in this data gap with actual case histories of how cities are handling their solid waste problems.

Concerned agencies at all government levels, as well as private firms, will be able to assess information of the following types:

- The management and operating characteristics of public sector solid waste management systems.
- The institutional forces which give rise to these characteristics.

- Those techniques that have been or are being applied to enhance the measures of productivity, aesthetics, level of service, and environmental control.

These agencies and firms can then use these comparisons to upgrade their systems according to the norms achieved in other cities of similar size, geographical location, and operational and institutional characteristics.

--ARSEN J. DARNAY
Deputy Assistant Administrator
for Solid Waste Management
Office of Solid Waste Management Programs

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INTRODUCTION

The solid waste management system of Detroit, Michigan is one in which change occurs slowly, but there have been changes in both operating procedures and in policy. No event, either external or internal to the system, has resulted in major change in activity or services. The experienced management and the historically strong union have both been satisfied to keep the system operating without major disruption, either to the clientele or to the Sanitation Division work force.

The Sanitation Division is involved in a number of distinct solid waste activities: included are refuse collection, refuse disposal, street cleaning, lot clearing and weed control, and environmental enforcement. The division collects no industrial solid waste and only a small portion of commercial solid waste generated in Detroit. It does not operate any of the sanitary landfills that are used for the ultimate disposal of its refuse. Its disposal activities involve the use of city and contractor operated transfer stations.

Although the system is presently operating with reasonable success, a number of constraints that limit management's effectiveness could cause current problems to multiply and, perhaps, to reach crisis proportions within a few years. These constraints, detailed below, have already caused the system to be relatively costly with a relatively low level of productivity. Detroit Public Works officials are keenly aware of these problem areas, but have been unable to adequately resolve them due to these very limiting constraints.

Although the collection function threatens to become a major problem area in the immediate future, perhaps more significant for the long term is the potential for crisis that exists in the disposal area. The city is not effectively involved in this function and depends on the private sector to provide the required landfill capacity. Other agencies, most notably the Southeastern Michigan Council of Governments, have contended that private sector landfills will shortly be unavailable, and to avoid a disposal crisis, public agencies must develop plans for alternative disposal methods. The city views the present disposal methods as feasible for a number of years to come.

Figure 1 presents the titles of the people either interviewed during the site visit or contacted in subsequent telephone calls. The types of information obtained are also indicated. Tape recordings of all conversations were made after obtaining the permission of the interviewee and no ~~people~~ one rejected this request.

~~The structure of~~ This report consists of five chapters and ~~a number of appropriate~~ three appendices. Chapter 2 synopsizes the system for those readers who are interested only in the basic parameters of the city and the collection and disposal operations. Chapter 3 presents our findings and identifies potential problem areas. Chapter 4 is a more detailed description of the city in terms of those parameters which affect solid waste management operations. Also included in this chapter are descriptions of the different public and private sector agencies on all levels found to impact the system. Finally, Chapter 5 is an in-depth description of the solid waste management system as a whole. All aspects of the system are presented and, wherever appropriate, tabular data is included.

Titles	Date	Information Type
Commissioner and Staff, Department of Public Works	Sept. 25	General System Characteristics, Problem Areas, History
Superintendent and Staff, Sanitation Division	Sept. 26	Solid Waste Activities, Level and Quality of Service, Problem Areas, Manpower and Equipment Allocations
Research and Systems Development Manager, Southeastern Michigan Council of Governments	Sept. 26	Regional perspective of solid waste disposal
Superintendent and Staff, Motor Transportation Division	Sept. 27	Vehicle maintenance policies, public areas
Business Agent, Teamsters, State County, and Municipal Workers Local 214	Sept. 27	Labor Management Relations
Business Agent, American Federation of State, County, and Municipal Employees, Local 26	Sept. 27	Labor Management Relations

FIGURE 1: DATA SOURCES AND INFORMATION TYPES

2

SYSTEM DESCRIPTION ABSTRACT

City: Detroit, Michigan

Contacts:
Clarence Russell - Commissioner of Public Works
Galen Grogan - Deputy Commissioner of Public Works
Bernard Panush - Accounting Manager, Central Accounting Division, Department of Public Works
Wesley Solomon - Personnel Director, Department of Public Works
D. L. Brown - Superintendent, Sanitation Division
Alvin Johnson - General Foreman/Route Management, Sanitation Division
Conley Abrams - Administrative Assistant, Sanitation Division
Clyde Dowell - Senior Government Analyst, Sanitation Division
James Garvie - Superintendent, Motor Transportation Division
Lloyd Piechan - General Foreman, Motor Transportation Division
Mr. Hudson - Business Agent, American Federation of State, County and Municipal Employees, Local 26
Al Kwiecinski - Business Agent, Teamsters State, County, and Municipal Workers, Local 214
Donald Lamb - Research and Systems Development Manager, Southeastern Michigan Council of Governments (SEMCOG)
John Philips - Assistant Supervisor, Environmental Enforcement, Sanitation Division

Dates of Visit: September 25-27, 1973

Population Demography:

Date	Total	White	Other
1970	1,512,893	838,877	672,605
1960	1,670,144	1,182,970	487,174
1950	1,849,568	-	-

Area:	137.89 square miles
Density:	10,962 people per square mile
Mileage:	2840.89 street miles 1485.96 alley miles

Collection: Table 1

Miscellaneous: The Sanitation Division provides refuse collection service for all residential dwellings in the city. It also collects from a number of commercial establishments (about 6,200) as part of its regular collection service. No distinction by the source of generation is made for record-keeping purposes. The city collects no industrial solid waste. Bulky items are collected at the same time by the same trucks as the normal mixed refuse. There are seven distinct service districts, currently utilizing 1,103 men for the collection activities. All street cleaning, lot clearing and weed control, and snow and ice removal activities are also handled by the Sanitation Division. Lot clearing is a major activity, due to the extensive number of both city-owned and private vacant lots in the city (over 18,000 lots). Absenteeism and motor vehicle maintenance are major problem areas, along with high labor costs.

TABLE 1: COLLECTION ABSTRACT

Collection Variables / Collection Function	Mixed Refuse	Street Cleaning	Lot Cleaning	Bulky Items	Hand Sweeping	Night Commercial
Number of Crews	280	8	5	Variable	8	5
Crew Size	3	14	10	3	-	3
Frequency of Service	1/week	4-6/year	As Req'd EEC Order	On Request	4-6/year	6/week
Point of Collection	Curb or Alley	N.A.	N.A.	Curb or Alley	N.A.	Curb or Alley
Method of Collection	Packers	Sweeper Flushers	-	Flat Bed	N.A.	Packers
Stops	497,126	N.A.	N.A.	N.A.	N.A.	270
Service Limitations	Unlimited Collection, Includes Bulky Wastes	None	None	None	None	None
Incentive System	Task Incentive - Standard Productivity Routes					
Fund Source	General Fund and $.35/bushel for commercial collection					
Tonnage (Annual)	687,285	57,750	36,960	60,000	N.A.	8,505
Unions	Teamsters, Local 214 (Drivers) - AFSCME, Local 26 (Laborers)					
Annual Cost	24,522,444	2,654,694	1,329,360	462,665	N.A.	282,483
Comments	Major problem areas related to collection activities are equipment downtime, absenteeism, and multiple use of crews and equipment.					

Disposal: Table 2

Miscellaneous: The Sanitation Division does not operate any landfill sites, and utilizes one incinerator on a limited basis to dispose of special and hazardous wastes. All city-collected refuse is transported to one of the five transfer stations located within the city. At the two city-owned transfer stations, one of which is an obsolete open relay station, private haulers under city contract remove the refuse to the landfill sites. At the three privately-owned transfer stations, the city contracts to provide a minimum number of refuse tons per day; this refuse is also transported to landfill sites. All landfill sites are privately-owned and operated and are some distance from the city, e.g. 34 miles, located in outlying counties. A new private transfer station is due to begin operations by November 1, 1973, allowing the city to close down its one technologically obsolete "open relay station."

TABLE 2: DISPOSAL ABSTRACT

Disposal Site / Disposal Data	1	2	3	4	5	6	7
Type	Transfer Station (City)	Transfer Station (Private)	Transfer Station (Private)	Transfer Station (Private)	Open Relay Station (City)	Incinerator	Brush Burners
Capacity	950 tons/day	2,000 tons/day	300 tons/day	300 tons/day	4,000 yds/day	300 tons/day	400 yds/day
Real Loading	650 tons/day	1500-1800 tons/day	250 tons/day	225 tons/day	3,000 yds/day	150 tons/day	400 yds/day
Expected Lifetime	Indefinite	Indefinite	Indefinite	Indefinite	Close 11/1/73	Indefinite	Indefinite
Operating or use costs to city	$231,254/yr	$5.90/ton	$5.88/ton	$5.95/ton	$533,480/yr	$22,218	$60,474
Start-up costs	-	-	-	-	-	-	-
Location	Southfield	Metropolitan Transfer Ctr.	Reitzloff Transfer Stat.	B&R Transfer Stat.	East Central	St. Jean	St. Jean Southfield

3

FINDINGS AND CONCLUSIONS

The solid waste management system operated by the City of Detroit is designed to provide for the collection of all residential refuse generated in the city. It also collects from a number of commercial establishments, mostly in the downtown area, but most commercial collection is done by private collectors. The city does not collect any industrial solid waste. The city does not operate any disposal sites, except for one incinerator (part-time) to dispose of pathological materials. The city utilizes both city and private transfer stations, from which refuse is hauled by contractors to private landfill sites outside the city for ultimate disposal.

As presently operated, the system exhibits many of the characteristics and problems typical of many large northern cities. The management staff of the Department of Public Works and the Sanitation Division is composed of competent personnel with long experience in the Detroit solid waste system. Most have worked their way up through the ranks to positions of leadership. Although they are intimately aware of the background and operation of the system, there have been few staff members brought in from other systems who would have experience with different approaches to solid waste management. As a result, a very traditional managerial approach is taken; it is unlikely that radical change will occur under present circumstances.

In addition, there are numerous constraints on the system which effectively limit the degree of possible change. Perhaps most significant is the effect of strong unionization. Two unions, the Teamsters and the American Federation of State, County, and Municipal Employees, are very effective in representing their membership, and have negotiated very favorable agreements regarding wages, fringe benefits, and working conditions. The unions have played a key role in several policy decisions by management. For example, the present productivity measures for collection routes resulted from the union's dissatisfaction with the previous task incentive routes. Also, the issue of overtime was resolved to reflect the union's position. The very existence of two separate unions not only makes the union position stronger but, because of the rigid job classifications, also limits the flexibility of management to meet unusual problems.

The age of work force is another constraint on the system. The average age is 51 years, which limits the deployment of personnel, raises wage costs, and 2 years ago influenced vehicle purchase decisions. The city considered the use of one-man trucks for the system, but it was decided that a younger work force would be required to operate such a collection system.

Perhaps the most significant present constraint on the system is the vehicle maintenance problem. This problem is outside the management scope of the Sanitation Division, since it is the responsibility of the Motor Transportation Division, and directly affects their ability to function effectively. Due to the critical shortage of vehicle maintenance manpower, a large proportion of the Sanitation Division fleet, including the newer 25 yard packers, is unavailable because of delays in repairs.

As a result the older and smaller vehicles (16 and 20 yard packers) must be used or routes simply are not completed. This situation, if left uncorrected, could develop to a crisis level within the near future. During the site visit the Common Council had a special session with the Department of Public Works and Motor Transportation Division Management in an attempt to define and resolve this problem area.

The vehicle maintenance problem is aggravated by the worker's failure to correctly load bulky items into the trucks. Although the packer trucks are equipped to handle bulky items along with the regular mixed solid waste, the collection workers often fail to follow necessary precautionary measures, causing the compactors to break down.

The seasonality of some of the activities of the Sanitation Division necessitates a fluctuating manpower level. The division is usually budgeted for more than enough manpower to meet the seasonality problem. However, the number of days lost due to vacation, sick time, or absences has been running at extremely high rates, so that the actual number of men availabe for assignments has averaged about 100 less than the daily minimum required level. This is another serious constraint on management's ability to operate.

The results of these factors lead, not surprisingly, to a system with relatively high costs ($45.68 per ton for mixed refuse collection) and relatively low productivity (355 stops per crew day). If costs continue to increase as they have over the past five years (more than 45 percent) and productivity remains unchanged, it is likely that refuse collection will become an issue of great public concern.

On the disposal side, the city has chosen to utilize transfer stations and to let the private sector provide landfills required for ultimate disposal. This approach eliminates the problems associated with the acquisition and operation of landfill sites that most cities have experienced, although at some increase in cost. This solution depends on the ability of the private sector to find adequate landfill capacity. To date, there has been no problem, however, a study developed by SEMCOG predicts that landfill sites will shortly become unavailable and/or very expensive, and recommends a plan for the disposal of refuse on a regional basis, using resource recovery incinerators, governed by a regional disposal authority.

4

BACKGROUND OF THE SYSTEM

Detroit is located in the southeastern corner of the State of Michigan, on the west bank of the Detroit River, directly opposite the city of Windsor, Canada. The Detroit Standard Metropolitan Statistical Area (SMSA) includes Wayne, Oakland,, and Macomb counties and is the nation's fifth most populous metropolitan area, with 4,354,200 inhabitants as of July 1, 1972. This population represents a gain of some 145,079 from the 1970 census count. During the decade of the 1960's, the SMSA grew by 11.6 percent but the city's population declined by 9.4 percent.

The pioneers of the automobile industry established Detroit as the automotive center of the nation in the early 1900's, and precipitated a large increase in population, causing Detroit to surpass one million by the end of World War 1. The auto industry attracted a large labor force, which led to the formation of the United Automobile Worker's union in Detroit in 1953. The racial composition was also affected, as large numbers of blacks from southern states were attracted to the plentiful jobs available in the auto industry.

In the 1950's, the city embarked on a rejuvenation effort of the downtown area, constructing numerous office building, e.g., the Henry and Edsel Ford Auditorium and the Cobo Hall and Convention Arena. In 1967 the city experienced the largest civil disturbance in modern U.S. history, both in terms of the number of deaths and amount of property damage. Following the disturbance, New Detroit, Inc. was formed to revitalize civic life. In November 1971, the Ford Motor Company announced a $500 million development project, the largest in the city history, for the riverfront area.

4.1: Location, Demography, Economic Base and Climate

Detroit is located at an altitude of 619 feet above sea level on the west bank of the Detroit River. The city proper proper covers nearly 140 square miles, including Belle Isle, the largest island in the Detroit River opposite the downtown area.

Although the metropolitan area (SMSA) has continued to grow at a steady pace, up 11.6 percent from 1960 to 1970, the city itself has lost population, declining from 1.85 million in 1950 to 1.67 million in 1960, to 1.51 million in 1970. This 18 percent population decrease over the past twenty years is reflected in the rather large number of unoccupied houses, 25,000, and the large number of vacant lots, nearly 18,000. The Sanitation Division's operation is affected by these facts, since illegal dumping areas and the resultant unsanitary conditions are readily observable and require constant service.

The racial composition of the city has changed in ways similar to many large northern cities, i.e., a large influx of blacks in the central city areas. During the decade of the 1960's, the non-white population increased from 487,174 persons to 672,605, a jump from 29.1 percent to 44.5 percent of the total population. For the metropolitan area (SMSA) excluding Detroit, blacks comprise 10.6 percent of the population.

Although Detroit is often considered solely a manufacturing center, over 61 percent of the labor force is engaged in non-manufacturing industries, such as wholesale and retail trade, finance, service industries, and construction. Motor vehicles and equipment manufacturing account for 12 percent of the labor force. Twenty-five percent of the automobiles produced in the U.S. come from the Detroit area.

The median income for Detroit is $11,015, while the cost of living is slightly below the U.S. average.

Detroit has a relatively moderate climate for a northern city, a result of the moderating influence of the Great Lakes area. The daily average temperature is 27° F in January, 74° F in July. The average annual precipitation is about 31" per year, with an average relative humidity reading of 58. The first freeze occurs on or about October 21, while the last freeze comes on or about April 23. Snowfall during the winter months is generally moderate, requiring salting operations more often than plowing.

4.2: Form of Government

The City of Detroit has a Mayor-Council form of government. As chief executive of the city, the mayor is ultimately responsible for the administration of all city services. He has veto power over the council approved ordinances or resolutions, but may be overridden by the council. The mayor has appointive and removal powers for the heads of most city departments, including the Commissioner of Public Works. He also may propose legislation to the council for their approval. The mayoral elections are held at four-year intervals, the next election to occur in November, 1973.

The Common Council is composed of nine members, all elected at large for four-year terms on a non-partisan basis. All legislative power for the city is vested in the council. The member receiving the highest number of votes becomes president of the council. The council meets daily as a committee of the whole, and each Tuesday in regular session. Included in the council's powers is the determination of annual appropriations for each department and the establishment of sinking funds for the payment of bonds. The council members are expressly forbidden to interfere either directly or indirectly with the operations of any administrative department.

The city clerk and city treasurer are separate elective offices, independent from the office of the mayor. The city clerk functions include the keeping of all city records, ordinances, resolutions, etc., to give notice regarding elections and registrations, to supervise such elections in his position as chairman of the Election Commission, and to handle all complaints and requests for information and direct such to the appropriate department. The city treasurer, who also acts as ex-officio treasurer of the Detroit School District, receives all taxes and assessments for the city and school district, and records all receipts and expenditures. He is also custodian of all monies, bonds, mortgages, leases and other evidence of value belonging to the city. He is also a member of the Sinking Fund Commission and the Board of Estimates of the city.

The Board of Assessors is composed of four members, appointed by the mayor, whose principal duties include the assessment of all property subject to city taxes. This task must be completed by February 1 for the preceding calendar year. All real and tangible personal property is included, and assessments are currently computed at 50 percent of true cash value. Since the property tax is one of the primary sources of general fund revenues, the task of the Board of Assessors is extremely critical to efficient city operations. The Common Council Board of Review hears individual appeals on assessments to insure the Board of Assessors has acted properly in each case.

All audit responsibilities are assumed by the Auditor General, appointed by the Common Council for a ten-year term. He must complete an audit of the financial transactions of all city departments at least once each fiscal year, and file a report with the Common Council detailing the financial position of the city.

4.3: Solid Waste Management System History

The solid waste collection operations in Detroit have undergone moderate change in recent years, changes more concerned with processes rather than with policies. The policies and objectives of the system have remained remarkably constant. The changes which have occurred were designed to make the system more efficient within the constraints, both political and economic, that are placed upon the system. The organizational structure has not been altered radically except for the recent decrease in the number of persons employed. Services provided to city residents are also similar to these provided in past years.

Prior to 1966, Detroit, similar to many midwestern cities, collected rubbish and garbage separately. Four garbage stations were used to accept the garbage; each residence was collected weekly. Rubbish collection was handled by seven service districts, and collection was bi-weekly. In 1966, the city went to a combined collection system, eliminating the need for separate garbage stations. By 1968, the last of these stations were phased out.

The use of concrete receptacles for refuse containers was common in many areas of Detroit prior to 1969. Through the use of Interim Assistance Program funds, the city launched an effort to remove these receptacles, since they were a hindrance to efficient collection practice. By 1971, the concrete receptacles had been eliminated. Presently, residents may use either plastic bags or cans, or metal cans.

A Common Council ordinance, passed in 1969, prohibited any burning of refuse by residents. Such burning was very widespread, especially during the Fall, to dispose of leaves. The increased volume of refuse caused by the leaves necessitates the use of additional crews for collection operations during this season.

In recent years, a number of factors led to a series of discussions between the Sanitation Division management and the workers, represented by the two unions, regarding work productivity and efficiency. In the early 1960's, ten cubic yard open trucks were used, and collection workers were paid for an eight-hour day; no incentive system was in effect. In the mid-1960's the Common Council approved an ordinance paying the collection workers on a task incentive system, whereby the workers were required to complete a specified route each day, and then could leave. As the city acquired its fleet of packer trucks, moving increasingly to larger sized trucks, it became evident that each crew should collect greater quantities of solid waste, thereby allowing for a reduction in manpower.

In addition, the city was concurrently in the process of closing down three of its four incinerators, a process it completed by August 1971: the fourth incinerator was maintained to handle pathological waste materials and now operates at only one-half its design capacity. The combined effects led to a reduction in manpower of 150 employees in November, 1971, the first such reduction in Sanitation Division history.

However, during this time, there were continuing problems in keeping a sufficient number of collection vehicles operational due to the shortage of manpower in the Vehicle Maintenance Division. The vehicle problem was further aggravated by the fact that in two years, 1968 and 1971, the city did not purchase any new packer trucks. Thus, the Sanitation Division was forced to operate with increasingly older vehicles which required additional maintenance. The lack of sufficient packer trucks caused some routes to fall one or two weeks behind schedule, necessitating extensive overtime since the accumulated refuse could not be collected within eight hours.

The unions, partly to protest the lay-off of their fellow workers, resisted the efforts of management to require overtime. This dispute led to a court test, in which the union position was supported in the lower court. The case is presently being appealed by the city.

As a result, the work system had to be changed. A plan of two loads per day for each 25 yard packer truck was recommended. Initially, differing pay scales were proposed, based on the size of the packer truck, i.e., 16-20-25 cubic yards, but this approach was opposed by the union. Finally, a productivity system was adopted, and is currently in use. A "standard 45 cubic yard route" was devised for each packer truck, meaning that each crew would be collecting approximately the same quantity of refuse, regardless of the capacity of the truck. Obviously, the small 16 cubic yard trucks would require three loads to complete its route, while the 25 cubic yard truck would need only two loads, but no great time differential was anticipated. In fact, nearly all crews work the same number of hours per day. The difference in truck capacity will probably disappear as the city acquires more 25 cubic yard packers. It has an additional 43 ordered for November, 1973, to add to the current number of 179, 25-cubic yard trucks.

For the disposal function, the city has moved increasingly to the use of transfer stations, with subsequent contractor transport to private landfill sites outside the city. The city itself has not operated any landfills since 1964, and closed its incinerators in 1968 to all except pathological materials, because of air pollution problems. The city is currently operating one transfer station, and utilizing the facilities of four private transfer station owners. A city-owned open relay station will soon be closed, upon completion of an additional private transfer station.

4.4: Agencies Affecting the Solid Waste Management System

There have been several agencies that have affected the operations of the Sanitation Division in recent years. This influence may become even stronger in the future, depending upon the manner that prospective problems are resolved. Most of the agencies impacting the system have been regional or local organizations; very little effect has been felt from Federal or state agencies.

4.4.1: State of Michigan

At the state level, three acts have affected the Detroit solid waste collection and disposal operation. The Garbage

Refuse and Disposal Act as amended March 30, 1972, requires that disposal sites and transfer stations be licensed by the state and that each municipality, or its representative agency or county, by July 1, 1973, prepare solid waste plans for the period through 1990. The date of submission has been extended. The city's approach must be part of the SEMCOG (Scutheast Michigan Council of Governments) approach.

The Michigan Public Employment Relations Act (see Appendix A) as amended, recognizes the right of public employees to form labor organizations and to engage in collective bargaining with their public employers. Exclusive bargaining unit rights and unfair labor practices are defined. As a result of this act, the city passed an ordinance establishing its Labor Relations Bureau and specifying proceedings for labor negotiations and contracts.

Following a pattern similar to other states, the governor issued executive orders to bring together Michigan's environmental control agencies under one department. The orders issued by the governor are to realign state agencies regulating air and water pollution under the Department of Natural Resources (DNR) with a proposed name change to Department of Environment and Natural Resources to reflect the expanded environmental responsibilities of a revamped DNR. A variety of other environmentally related state agencies controlling areas such as land use planning, water supply, solid waste and municipal waste, and water shed planning are also part of the planned reorganization.

Facing a possible veto by the legislature, which has disapproval authority on such executive orders, a compromise has been worked out between the Governor's office and critics of the realignment. In March, the governor issued a second order under which the DNR will set the overall policies and objectives for protecting the state's environment, including land-use while the quasi-judicial functions of issuing orders and permits, holding hearings, and enforcing the pollution control laws are to remain with the Water Resources Commission and the Air Pollution Control Commission.

Critics of the original order said the DNR, a wildlife conservation oriented commission, lacked the scientific and technical expertise needed to direct the air and water pollution abatment programs. Other critics argued that the reorganization would seriously disrupt Michigan's plans for meeting Federal deadlines for clean air and water.

The expanded DNR will also add two deputies under the current head. One will manage natural resources such as state forests, land, and fish and wildlife. The second deputy will oversee the environmental control programs. It remains to be seen as to how this reorganization will affect local solid waste planning efforts.

4.4.2: Southeast Michigan Council of Governments (SEMCOG)

The SEMCOG has been active in the disposal area. As a result of the Amendments to Public Law 87, each municipality over 10,000 in population is required to submit a plan for approval, detailing its methods of disposal for the near and long term. Taking a regional approach, SEMCOG was given this task, and immediately named a Solid Waste Committee, composed of officials active in solid waste management from the six county areas, including the Commissioner of Public Works for the city of Detroit. The committee retained a consulting firm, Metcalf and Eddy, Inc., to undertake a study of the disposal capabilities and requirements up to 1985. Using an earlier report prepared in 1964 by SEMCOG's predecessor, the Detroit Metropolitan Area Regional Planning Commission, the study group decided to survey all residential, commercial, and industrial waste generation in the area. From these data, it was estimated that 14.7 pounds per person per day was presently being generated from all sources, and, of course, was projected to increase linearly. These estimates far exceeded the capabilities of present disposal methods, which rely almost entirely on sanitary landfills.

The consultant report recommended near-term solutions that chiefly involved the acquisition of additional landfill sites to meet the immediate pressures. For the long term, resource recovery and incineration methodologies, using transfer stations as the immediate disposal point, were recommended as the most effective disposal approaches. The energy, in the form of heat, would then be saleable to industry. The Southeast Michigan Solid Waste Authority, an independent agency, was recommended to manage the activities relating to waste disposal for the region. This 18 month study was completed in March, 1973, and submitted to the Solid Waste Committee for review and approval.

However, several factors led to the Committee's failure to take any definitive action based on the report. The Solid Waste Committee, composed primarily of local operating officials in solid waste management, was reluctant to approve any plan that would impinge upon their jurisdiction. The proposed regional solid waste authority proved difficult for the committee members to accept, since local officials viewed this as a threat to local control over these services. Also, since the City of Detroit is the largest waste generator, members of the committee from the surrounding areas were hesitant to accept the city's disposal burden, believing that by so doing, they would decrease their capacity to dispose of their own solid waste. It is interesting to note that many of these counties are now receiving the city's solid waste at privately operated landfill sites. The private sites are apparently able to operate without the political debates that surround public acquisition and operation of landfill sites.

As a result, the study has not been acted upon and remains inoperative. The Solid Waste Committee has been reconstituted by SEMCOG, and renamed the Solid Waste Task Force Committee. Members of this committee are now, for the most part, policy making officials from government and industry, and not the operating officials that comprised the previous committee. It is hopeful that this higher-level committee can take a relatively objective view of the situation, and have less concern for preserving vested interests of individual localities. The report submitted by Metcalf and Eddy will be used as the principal resource, and its major recommendations are likely to be accepted by the task force with some modification. According to SEMCOG officials, it is hopeful that two basic changes will win approval for the plan. First, the resource recovery aspects of the plan will be emphasized to insure that, in this time of energy shortage, local officials will be made aware of the potential advantages of this approach. Second, the powers of the proposed regional solid waste authority will be limited solely to planning activities. Operational authority will still be retained by local units of government, while enforcement authority would be vested in state agencies such as the State Board of Health. By so doing, it is hoped that local fears concerning an all-powerful regional authority will be ameliorated.

It seems likely that little impetus will be provided for the adoption of this plan by local governments until the present system breaks down, i.e., landfill sites suddently become extremely costly or unavailable. SEMCOG officials predict that such problems will begin to appear within two years. At that time they believe there will be strong support for the implementation of this regional approach for disposal operations. Other officials, such as the Detroit Department of Public Works staff, believe the situation is less critical and feel that landfill sites are relatively plentiful as long as they are owned and operated by the private sector.

4.4.3. Unions

Two unions represent the Sanitation Division work force. Local 214 of the Teamsters State, County and Municipal Workers represents the truck drivers and other vehicle operators. The Michigan District Council 77 of the American Federation of State, County, and Municipal Employees, represents the sanitation laborers. About 600 sanitation employees belong to the Teamsters local, and about 1,000 belong to the AFSCME local.

The present union structure was formed when a number of smaller unions merged in 1966 to set up the two existing unions. Although the two unions have not taken the same positions on all issues, both have been effective in assuring relatively high wages and fringe benefits for its members. The fringe benefit package is particularly attractive.

When the city moved from the 16 yard to the 20 yard packer trucks, the Teamsters local requested and received a $.15 per hour increase because of the larger size and greater complexity of the truck involved. Upon moving to 25 yard trucks, the AFSCME local requested and received a $.15 per hour increase because of the increased work load for the collection workers. This will be followed by another $.15 per hours raise for the Teamsters members in order to maintain the wage differential. The ability of the unions to collectively exercise their powers, thus influencing and constraining management action, is most evident from this scenario.

The major difference between the attitudes of the members of the two unions is found with respect to overtime. The Teamsters members generally are willing to put in overtime, while the sanitation laborers of AFSCME are generally opposed. Thus, driver and crew often have differing perspectives over work assignments, particularly the completion of a route and overtime requirements.

In 1970, a second shift was initiated, with pay set at overtime rates. In 1971, management attempted to reduce pay for second shift operation to regular time, with no overtime increment. A court suit ensued, the Teamsters were successful, and the city was obliged to pay a $100,000 rebate for overtime.

AFSCME local officials consistently have felt that the injury rate was high because of the rush required to complete a route and the practice of loading bulky items in the packer trucks. Injury problems will probably be a major issue for the new contract negotiations scheduled to open in December, 1973. Guidelines for equipment operator training have been developed but are not viewed as sufficient (see Appendix B).

Both unions view absenteeism as a serious problem and recommend that accumulated sick days be paid in cash. Otherwise, workers regard these days as bonus vacation days, contributing to absenteeism rates.

5

SOLID WASTE SYSTEM CHARACTERISTICS

The Sanitation Division has responsibility for the collection of all residential solid waste generated in the city and for the street cleaning operations of the city. Appendix C presents the City Code and amendments for refuse collection and disposal. The City also collects from a small number of commercial establishments, charging a fee to defray expenses. It does not collect from the industrial sector, such waste being collected by private haulers. The division's collection activities include garbage, rubbish, yard refuse, ashes, and bulky wastes. Collection of construction and demolition waste, special wastes, animal and agricultural wastes, and dead animals is performed as required. The city does not collect abandoned vehicles or sewage treatment residues.

The Sanitation Division utilizes transfer stations as part of its collection and disposal operation, transferring refuse from packer trucks to large haulers for utlimate disposal in sanitary landfills outside the city. The city does not operate any landfills itself, but relies on privately owned and operated sites. Both city and privately owned transfer stations are utilized. In addition, once incinerator is kept open, operating at one-half capacity, to dispose of pathological materials.

The division does not distinguish among the types of refuse collected, but combines all categories in its regular mixed refuse collection. Thus, the quantities of garbage, rubbish, yard refuse, ashes and bulky wastes, cannot be identified. Furthermore, both residential and commercial sectors are combined in the regular mixed refuse collection, although there is also a separate night commercial collection for the downtown businesses. In addition to handling other collection functions as required, lot cleaning and weed control activities are performed by special crews during the summer and fall months. Street cleaning, including street flushing, mechanical sweeping, and hand sweeping, is handled by separate crews. Snow and ice removal services are also provided by the Sanitation Division, drawing from employees normally assigned to either mixed refuse or street cleaning activities.

To perform these tasks, the division has a budgeted staff of 1,710 people for direct wage personnel, including budgeted allowances for vacation, sick, and absent leaves (see Table 3): deducting these allowances, a minimum of 1,464 men are required daily. However, the average number available for assignment is currently 1,336, which represents the effective work force for the division (see Table 4). Of these, nearly all (1,235 men) are assigned to the mixed refuse and street cleaning activities. The remaining 101 men are assigned to disposal activities, shops, route management, and the Community Development Commission operation.

5.1: Collection Responsibilities of the Sanitation Division

Five separate aspects of the collection responsibility may be identified for the Sanitation Division.

TABLE 3

SANITATION DIVISION
BUDGETED MANPOWER 1973-74
(WAGE PERSONNEL)

	18 Weeks 7/1-11/4	21 weeks 11/5-3/31	13 weeks 4/1-6/30	Daily Average
ACTIVE MANPOWER				
Refuse Collection	1093	1093	1093	1093
Yard Operations	64	64	56	60
Weed Cutting (Private Lots, etc.)	10	-	-	4
Street Cleaning	146	19	146	95
White Wings	12	12	12	12
Weed Cutting (Berms, etc.)	7	-	7	4
Total District Manpower	1332	1188	1314	1268
Disposal	37	37	37	37
Shops	36	36	36	36
Route Management	15	15	15	15
Vacant Lot Program (CDC)	44	?	?	?
Snow Alert	-	12	-	-
Total Active Manpower	1464	1288	1402	1356
VACATION	84	153	52	102
SICK LEAVE	77	77	77	77
Salaried Personnel	1625	1518	1531	1535
ABSENTEES	61	61	61	61
TOTAL MANPOWER REQUIRED	1686	1579	1592	1596
ATTRITION (2.6/wk. x 1/2)	24	27	17	
	1710	1606	1609	

TABLE 4

SANITATION DIVISION MANPOWER REPORT
WAGE PERSONNEL 1/

WEEK ENDED 12 August, 1973

TITLES	TOTAL PERSONNEL	DISTRICTS								DISPOSAL	SHOPS	ROUTE MANAGEMENT	C.D.C.
		TOTAL	CE	CW	SE	NE	NW	SW	W				
BUDGETED	1713	1573	178	215	199	269	243	188	284	40	36	17	44
ASSIGNED													
VEHICLE OPERATOR III	67	58	8	13	8	7	8	6	8	4	--	1	4
VEHICLE OPERATOR I	45	37	7	8	1	6	6	1	8	2	--	2	4
TRUCK DRIVER	336	324	32	34	47	60	36	41	74	1	4	7	--
SUB-TOTAL	448	419	47	55	56	73	50	48	90	7	4	10	8
DRIVER/LABORER	230	207	27	37	18	31	45	24	25	--	--	11	12
SANITATION LABORER	980	934	106	122	115	166	146	109	170	13	15	4	14
OTHER	49	11	1	2	1	4	1	1	1	21	16	1	--
TOTAL ASSIGNED	1707	1571	181	216	190	274	242	182	286	41	35	26	34
VACATION - SICK LEAVE - ABSENT													
TOTAL ALLOTED	225	220	24	29	28	38	34	27	40	3	--	2	--
ACTUAL VACATION	167	145	15	31	17	26	20	16	20	14	4	--	4
SICK LEAVE	126	115	12	15	15	23	19	8	23	4	2	--	5
ABSENT	73	76	5	2	8	17	8	17	19	--	--	--	2
ACTUAL VSA	371	336	32	48	40	66	47	41	62	18	6	--	11
AVAILABLE FOR ASSIGNMENTS	1336	1235	149	168	150	208	195	141	224	23	29	26	23
REQUIRED DAILY	1467	1335	150	181	168	228	208	158	242	37	36	15	44
EXCESS OR (SHORTAGE)	(131)	(100)	(1)	(13)	(18)	(20)	(13)	(17)	(18)	(14)	(7)	11	(21)

1/ Does not include supervisory personnel.

5.1.1: Mixed Refuse Collection

Duties and Level of Service

Mixed refuse is collected five days per week, Monday through Friday, in Detroit. Bulky wastes that will fit into a packer truck, including refrigerators and other large white goods, are collected as part of the residential mixed refuse collection activity. Very large objects are noted by crews or supervisors to be picked up by special bulky waste pick-up crews.

Some 80 percent of mixed refuse is collected in alleys and the remaining 20 percent is collected at curbside. Carry-out service is provided for a small number of commercial establishments. Storage containers may be either metal or plastic cans of up to 30 gallons in volume or plastic bags. However, plastic bags may not be used for putrescible materials. No limit is specified on the number of containers. Specifically prohibited by council ordinance are 55 gallon metal drums.

All combined mixed refuse residential units are served once per week. A total of 280 crews, each serving an average of 355 units per day, handle this task. The city has seven distinct sanitation districts, with separate manpower, equipment and yard facilities for each. Due to problems in vehicle maintenance and the reluctance of some collection crews to work overtime, the city has, on occasion, fallen behind schedule in its mixed refuse collection. The initiation of the 25 yard route concept, as discussed earlier, has helped to alleviate the manpower problem. However, vehicle repairs still are delayed, due to lack of skilled mechanics, resulting in an insufficient number of vehicles. Scheduled purchase of 43 new 25 yard packers may help this problem.

Manpower and Equipment Allocation

For each of the 280 mixed refuse collection routes, a crew of three men is assigned and is made up of a driver and two sanitation laborers. The driver does not assist with the collection. Some employees have a dual classification of truck driver/sanitation laborer, so that they may be assigned as required, depending on the total composition of the available work force on any particular day. The average amount of time taken to complete a route is approximately 6 hours, which includes at least two trips to the transfer stations, which are estimated to be an average of 5 miles away from a route. Table 5 presents the manpower and equipment allocation for the Detroit solid waste management system.

Combined mixed refuse collection is performed using a mix of 16, 20, and 25 yard packers. As noted in Table 6, the Sanitation Division has 156 sixteen yard packers, 130 twenty yard packers, and 179 twenty-five yard packers. The smaller 16 yard packers will eventually be phased out as the city acquires additional 25 yard packers. It is significant that no vehicles were purchased in 1968 or 1971, times when the Sanitation Division was considering major changes in its manpower and equipment policies, i.e., the 1-man truck approach. This approach was rejected, but the failure to purchase packer trucks in these years necessitated a lengthening of the useful life span of existing equipment from 7 years to 8 years.

The 7 sanitation districts are of unequal size and plans are being made to reduce the number to 6 districts as a means of equalizing manpower and equipment distribution.

Efficiency and Productivity

As seen in Table 7, the city collects approximately 687,285 tons of mixed refuse annually. This breaks down to about 53 pounds

TABLE 5: MANPOWER AND EQUIPMENT ALLOCATION

Function	Mixed Refuse	Street Cleaning	Lot Cleaning/ Weed Control	Bulky Items	Hand Sweeping	Admini- strative	Total
PERSONNEL							
Sanitation Laborer	709[1/]	18[1/]	6[2/] & (44)[4/]	—	10[3/]	—	743
Truck Driver/ Sanitation Laborer	163[1/]	—	—	—	—	—	163
Truck Driver	231[1/]	23[1/]	—	—	—	—	254
Street Sweeper Operator/ Vehicle Operator	—	75[1/]	—	—	—	—	75
Supervisors	—	—	—	—	—	72	72
Management	—	—	—	—	—	8	8
TOTAL	1103[1/]	116[1/]	6[2/] &(44)[4/]		10[3/]	80	1315
EQUIPMENT							
Packers	466	—	—	—	—	—	466
Open Bed	7	63	—	—	—	—	70
Street Sweepers	—	37	—	—	—	—	37
Street Flushers	—	16	—	—	—	—	16
Tractor Mowers	—	—	18	—	—	—	18
Shovel Loaders	—	11	11	—	—	—	22
Dempster Dumpster	4	—	—	—	—	—	4
Dog Wagons	2	—	—	—	—	—	2
Stake	—	—	—	5	—	—	5
Open Body	3	—	—	—	—	—	3
Woodchippers	2	—	—	—	—	—	2
Passenger Cars	—	—	—	—	—	45	45
Pick-ups	20	1	—	—	—	—	21
TOTAL	504	128	29	5	—	45	711

TABLE 5: (Cont'd.)

Notes and Comments

[1] Total effective work force, based upon the average number available for assignments each day (1,235 in wage category), distributed by relative number budgeted for each job category.

[2] Yearly average of effective work force assigned to lot cleaning and weed cutting, drawn from sanitation laborers budgeted under mixed refuse and street cleaning.

[3] Yearly average of effective work force assigned to hand sweeping, drawn from sanitation laborers budgeted under street cleaning.

[4] Revenue sharing funds allowed for employment of 44 men in special lot cleaning program from April to September, 1973.

TABLE 6: ROUTE MANAGEMENT PACKER TRUCK DISTRIBUTION

District	Total 16 yard Trucks	16 yard Trucks 1965	1966	1967	1969	Total 20 yard Trucks	20 yard Trucks 1969	1970	Total 25 yard Trucks	25 yard Trucks 1970	1972	1973	Total
Central West	20	-	3	2	15	18	2	16	10	-	10	-	48
South West	23	1	6	7	9	19	4	15	20	-	2	18	62
North West	31	-	15	7	9	21	1	20	35	-	6	29	87
West	21	1	12	8	-	23	7	16	42	2	1	39	86
Central East	17	-	2	3	12	17	3	14	8	-	7	1	42
South East	15	-	7	8	-	16	3	13	25	-	24	1	56
North East	29	2	11	7	9	16	-	16	39	-	30	9	84
TOTALS	156	4	56	42	54	130	20	110	179	2	80	97	465

TABLE 7: EFFICIENCY AND PRODUCTIVITY DATA

	Parameter / Collection Function	Mixed Refuse and Small Bulky Items	Street Cleaning	Lot Cleaning, Weed Control	Bulky Items	Hand Sweeping	Night Commercial
Community Description	Population Served	1,511,482					
	No. of Resid. or Comm. Units	497,126 1/					270
	Street Miles	[illegible],341					
	Alley Miles	1,486					
	Area (sq. mi.)	140					
	Pop. density (peo/sq.mi.)	10,796					
Waste Amounts	Annual Amounts Collected (Tons)	687,285 2/	57,750 2/	36,960 2/	60,000 2/		8,505 2/
	Lbs./unit/wk	53.1	4.5	2.9	4.6		.7
	Lbs./person/day	2.47	.21	.13	.21		.03
Collection System Description (inc. Level of Service)	Point of Collection	alley or curb	curb	N.A.	alley or curb	curb	alley or curb
	Freq. of Collection	1/week	resid.-5/yr downtown-6/wk	N.A.	as requested	downtown-6/wk	downtown-6/wk
	Type of Storage Container	bags or cans met. or plas.	N.A.	N.A.	N.A.	N.A.	bags or cans met. or plas.
	Avg. Dist. to Disp. Site	5 miles	4½ miles	N.A.	N.A.	N.A.	1 mile
	Avg. Miles Driven/truck/day	varies by day	16 miles	N.A.	N.A.	N.A.	varies
	Avg. Hours worked/day	6	6.5	N.A.	N.A.	6.5	5.5
	Direct men	1,103	116	50 3/	as necessary	35	15
	Crews	280	8	5	N.A.	8	5
	Crew Size	3	14 5/	10	3	N.A.	3
	Trucks	499	118	23	5	N.A.	5
Wages	Avg. wages and fringe for laborers	$4.84 direct $1.79 fringe					
	Avg. wages and fringe for drivers	$4.86 direct $1.80 fringe					
Collection Cost/Efficiency Figs.	Stops/Crew/Day	355	N.A.	N.A.	N.A.	N.A.	54
	Tons/Crew/Day	9.9 6/	43.8 6/	44.8 6/	N.A.	N.A.	5.5 6/
	Coll. Cost/resid. unit/yr.	$ 49.33	$ 5.34	$ 2.67	$ 4.32	N.A.	$ .57
	Coll. Cost/person/yr.	$ 16.22	$ 1.76	$ .88	$ 1.42	N.A.	$ .19
	Coll. Cost/ton/yr.	$ 35.68	$45.97	$35.97	$35.82	N.A.	$33.26
	Total Coll. Cost/yr. 7/	$24,522,444	$ 2,654,694	$ 1,329,360	$ 2,149,603	N.A.	$ 282;843
Disposal	Type & No. of Disp. Sites	3 private and 2 public transfer stations, 1 incinerator, 1 brush burner					
	Total Disp. Cost/yr. 8/	$ 5,265,257	$ 443,116	$ 280,206	$ 462,665	N.A.	$ 65,164
Total Cost	Total Cost/yr.	$29,787,701	$ 3,097,810	$ 1,609,566	$ 2,612,267	N.A.	$ 348,007
Misc. Cost Ratios	Coll. Expense as % of tot. Exp.	82.3	85.7	82.6	82.3	N.A.	81.3
	Coll. labor expense as % of tot. Coll.	90.5 9/	71.0 9/	90.5 9/	90.5 9/	N.A.	90.5 9/
	Coll. equip. expense as % of tot. Coll.	7.1	22.0 10/	7.1 10/	7.1 10/	N.A.	7.1 10/
	Proc. & Disp. expense as % of tot. exp.	17.7	14.3	17.4	17.7	N.A.	18.3
	Proc. & Disp. labor expense as % of tot. disp.	15.1 11/	15.1 11/	15.1 11/	15.1 11/	N.A.	15.1 11/

TABLE 7: (Cont'd.)

1/Based on 1970 Census of Housing, number of occupied units

2/Estimated as follows:

Mixed refuse -about 80 percent of total solid waste collected
Street cleaning -25 sweepers/day x 20 yards/sweeper/day x 165 days x .7 tons/yard
Lot cleaning -32 trucks/day x 70 yards/truck/day x 165 days x .1 tons/yard
Bulky items -about 7 percent of total solid waste collected
Night commercial-about 1 percent of total solid waste collected

3/Includes 44 men acquired through $500,000 Revenue Sharing monies, from Community Development Corporation (CDC) for lot cleaning program, April through November, 1973. Program will be continued with local funds if necessary.

4/Approximately 10 men are budgeted for this activity with additional men from mixed refuse collection force who are unable to perform regular route activities because of age or poor health.

5/Includes men for mechanical sweeping and flushing, hand sweeping, and sign posting. Approximately 4 sweepers, 2 flushers, 4 hand sweepers, and 4 sign posters make up the average crew.

6/Estimated as follows:

Mixed refuse -248 working days/year
Street cleaning -165 working days/year
Lot cleaning -165 working days/year
Night commercial-312 working days/year

7/Collection costs for mixed refuse, lot cleaning, bulky items, and night commercial, are prorated by the amounts collected from each sector for the total cost of refuse collection ($28,284,250 in 1972-73). Street cleaning costs are directly estimated from cost statements This method is different from the approach used in other case study efforts which base cost allocation by manpower fractions. For Detroit, this approach cannot be used effectively because of the policy of assigning manpower to different functions on an "as needed" basis.

TABLE 7: (Cont'd.)

8/Disposal costs for each sector are obtained by prorating the amount collected from each sector for the total disposal costs ($6,516,407).

9/Percentage obtained for mixed refuse collection and street cleaning from cost statements. For other activities, percentage assumed to be the same as for mixed refuse collection.

10/See 9/above.

11/Percentage obtained from cost statements. Assumed to be the same for all collection sectors.

per unit per week or just under 2.5 pounds per person per day. Using the three man crews, the Sanitation Division is able to average 9.9 tons per crew day. The cost of collection averages about $35.66 per ton, relatively higher than many systems, but comparable to other large mid-western or northern cities. However, it is important to note that all indirect costs are included in that figure, not merely the budgeted direct expenditures. The cost per dwelling unit averages $49.33, somewhat higher than other large cities, but it also includes all indirect costs. Also, since some commercial refuse is included in these figures, it is likely that both the quantity and dollar figures are slightly inflated over what would be calculated as a cost for strictly residential collection. The average number of stops per crew per day is low for a system collecting from curbs and alleys.

5.1.2: Street Cleaning

Duties and Levels of Service

Street sweeping and flushing is performed in Detroit between the months of April and November. Some 160 routes are defined; each day from 15 to 30 routes are swept. Therefore, each route is swept from 4 to 6 times per season. The downtown loop area receives special attention, being swept 6 nights per week between 10:30 p.m. and 7:00 a.m. In addition to the mechanical sweepers and flushers, white wing crews also perform hand sweeping tasks. During the summer months, street cleaning crews also perform weed cutting tasks along major roadways. A total of 23,200 curb miles are swept each season.

Manpower and Equipment Allocation

As shown in Table 7, an average effective work force of 116 men is currently being used for street cleaning operations.

An additional 10 men are used in hand sweeping tasks. Employees with a dual classification of street sweeper operator/vehicle operator are assigned according to the requirements for each day. Two employees are assigned to post signs on the streets to be swept one day in advance. One crew consists of about 14 employees operating approximately 4 mechanical brooms.

The division currently has 37 street sweepers and 16 street flushers to handle the mechanical sweeping and flushing routes. In addition, it has the use of some 63 open bed trucks to collect street dirt.

Efficiency and Productivity

An average of 43.8 tons of sweepings are collected each day by each crew, amounting to an annual total of about 57,750 tons. Crews drive an average of 14 miles per day, working 6.5 to 7 hours. The costs per ton of street waste collected averages $45.97 or $5.34 per dwelling unit per year. The cost of street cleaning, including all indirect costs, totaled over $2.6 million in 1972-73.

5.1.3: Lot Cleaning/Weed Control

Duties and Level of Service

During the summer months, the city undertakes an extensive campaign to clean and remove weeds from the city's vacant lots. As shown in Table 8, there exist nearly 18,000 vacant lots, of which about 3,000 are city-owned. The problem of debris accumulating on these lots is a serious one. Some are used as illegal dumping sites. When this service is provided by the Sanitation Division for private lots, the landowners are billed for the costs incurred.

TABLE 8

VACANT LOT PROGRAM - ESTIMATED WORKLOAD AND COSTS

Vacant Lots - This Year

3,000	City surplus
1,745	Urban renewal
8,612	Private
4,582	HUD
17,939	Total residential lots

Vacant Lots - Next Year's Projections

3,800	City surplus
2,100	Urban renewal
6,582	HUD
8,600	Private
21,082	Total residential lots

Vacant Lots Needing City Services

3,800	City surplus
2,100	Urban renewal
4,300	Private (est. 1/2 total)
10,200	Total

Est. 1/3 of 10,200 need debris removal = 3,400 lots

Est. average debris removal cost per lot - $250.
3,400 x $250 = $850,000 Total debris removal cost

Weed Cutting (3 cuttings per lot, 2 cuttings for those with debris removal)
Est. weed cutting cost = $35 per lot per cutting
3,400 x 2 cuttings x $35 = $273,000
6,800 x 3 cuttings x $35 = 714,000
Total $987,000

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Debris removal	$ 850,000
Weed cutting	987,000
Total cost	$ 1,837,000

Manpower and Equipment Allocation

During the summer, an average of 10 laborers are assigned each day to lot cleaning. These men are drawn from the regular pool of sanitation laborers, who also work in mixed refuse collection, street cleaning, etc. A $500,000 portion of Revenue Sharing monies was recently allocated to employ 44 men from April to September 1973 to assist with the lot cleaning program. An additional 20 men were employed in the weed control program. From November to April, the activity is discontinued, and the work force is assigned to other tasks, e.g., snow and ice removal.

Most jobs are done on a work order from the Environmental Enforcement group of the Sanitation Division. This group issues orders to individual property owners requiring them to clean up the property within 10 days. If they fail to comply, the Sanitation Division is instructed to clean the lot, billing the property owner for the costs. If an individual district has enough lots that need cleaning, an individual crew will be set up, consisting of 8 to 9 men, 2 front end loaders, 2 dirt trucks, and a mowing machine. Table 9 depicts a summary of the annual activities of the Environmental Enforcement Division for Fiscal Year 1973.

This collection function requires the use of approximately 18 tractor mowers and 11 shovel loaders.

Efficiency and Productivity

The Sanitation Division normally cleans from 600 to 700 lots per year, but with the additional revenue sharing monies made available, over 3,700 lots were cleaned in 1973. Funds for this program have been spent, but the Community Development Corporation, which coordinated the program, has made a proposal that this extra effort be continued with local funds, estimated to cost just under $2 million per year. No data on the quantities of refuse removed from the lot clearing activity were available.

TABLE 9: ANNUAL ACTIVITY SUMMARY FOR ENVIRONMENTAL ENFORCEMENT GROUP

DEPARTMENT OF PUBLIC WORKS

ENVIRONMENTAL ENFORCEMENT

(Litter-Weed Control ANNUAL REPORT - Fiscal Period Beginning July 1, 1972 thru June 30, 1973)

Complaint Office	15,489	
Complaint Field	335	
Field Pick-ups	57,228	
Reinspections	76,895	
No Entry to Premises	15,937	
Consultative	1,064	
Education Field Visits	2,004	
Weed Complaints	769	
Weed Field Pick-ups	2	
Weed Reinspections	4,609	
Weed Court Notices Served	14	
Court Notices Served	2,834	
TOTAL STOPS	177,180	
Field Orders Issued	63,883	(Violation Notices)
Void Notices - Litter	499	
Contact Notices Issued	6,810	
Certified Letters	236	
Weed Notices Issued	78	
Void - Weeds	69	
Abaited Notices	46,470	
No Cause for Action	4,723	
Work Orders Issued	633	
Court Notices Filed	2,396	
Records Investigation	7,330	
Special Detail	953	
Weed Abatements	1,210	
Weed Record Investigations	1,049	
COURT SUMMARY		
Total Number Court Cases	2,804	
Warrants	1,683	
Number Fined	664	
Adjourned	246	
Suspended Sentence	144	
Dismissed W/O Prejudice	113	
Jailed/Probation	1	
Bonded	0	
Amount in Fines	$11,568.00	

5.1.4: Night Commercial Collection

Duties and Level of Service

The Sanitation Division provides special collection service to the downtown commercial establishments. It serves 5 routes, with an average of 54 units per route, for a total of 270 commercial units. Collection is provided 6 nights per week. Collection requirements are the same as for the regular mixed refuse routes.

Manpower and Equipment Allocation

Night commercial customers are served by 5 crews, made up of 3 workers each. Vehicles from the regular fleet of packer trucks are used for this service. The length of a route varies by the anticipated weight, average completion time is 5.5 to 6 hours, and 2 trips are made to the transfer stations.

Efficiency and Productivity

The night commercial crews collect an average of 5.5 tons per night, significantly lower than the 9.9 tons per day collected by the regular mixed refuse crews. No indication of the reasons for this difference were available.

5.1.5: Snow and Ice Removal

Duties and Level of Service

This activity is performed as required using existing manpower and equipment resources available to the Sanitation Division. Major storms, that involve the shifting of large numbers of men and equipment, occur on the average of twice per year. Both plowing, sanding and salting activities are performed.

Manpower and Equipment Allocation

Using manpower normally assigned to mixed refuse collections, approximately 200 workers are utilized for an average of 12 hours during a major storm. Obviously, during these times mixed refuse collection is interrupted.

Existing vehicles are converted, i.e., plows are attached to the packer trucks, and sanding and salting machines are placed on open trucks. About 60 open trucks and 120 packers would normally be used. One labor relations problem related to this area is that, while men are paid overtime if they work more than an eight hour day, they are not paid for standby time if they are called in before a storm hits and have to wait. The unions are sensitive to this issue.

Efficiency and Productivity

No measures of efficiency or productivity are currently available for this activity.

5.2: Quality of Service

The quality of service provided by the Sanitation Division appears to be generally satisfactory. No major problems have arisen that have caused a breakdown in the system, or an abnormal number of complaints from residents. The most significant problem in recent years has been the failure to complete routes causing a back-log and the accumulation of refuse. This has been partially solved by the introduction of the productivity measures for each route. However, during the summer of 1972, when the Sanitation workers were attempting to modify the working requirements regarding overtime, citizen complaints were extremely high. Most complaints were concerned with missed service, since the reluctance to work overtime led to the failure to complete routes.

Although the system appears to be relatively costly, it is more likely a result of high wages rather than inherent inefficiencies. Since refuse collection is generally a highly labor intensive activity, the costs of labor largely determine the overall costs of the system.

The new routing system, using the 45 yard route concept, has largely solved the problem of overtime, although occasional needs for overtime still arise and are still resisted by the sanitation laborers. The old task incentive system, formerly used, has been abandoned, which may cause an increase in manpower and, obviously, costs for the system.

5.3: Labor Management Relations

The work force of the Sanitation Division is represented by two distinct unions. The Teamsters State, County, and Municipal Workers, Local No. 214, represents all truck drivers and allied classes of workers. Included under this bargaining unit are sanitation employees classified as truck drivers, vehicle operators I, II, and III, Street Surveyor Operator, and Bulldozer Operator. All sanitation laborers are represented by the American Federation of State, County, and Municipal Employees, Michigan District Council 77 Local 26.

The Teamsters Local 214 is presently working under an agreement scheduled to expire November 30, 1975, while the AFSCME Local 26 agreement expires June 30, 1974. Bargaining sessions are now under way with the AFSCME unit.

The unions have negotiated an "agency shop", which is permitted by the State Public Employment Relations Act, in their current contracts. In an agency shop, covered employees who are not members of the unions must pay a service charge equal to the monthly union dues to the union. This, of course, has the effect of encouraging all employees to become union members. The city does provide dues check-off for the respective unions.

Established grievance procedures are used to settle contract disputes. The city's Labor Relations Board acts as the mediating agency for all disputes that are unresolved by lower levels of negotiation. Arbitration may be utilized as a last resort to resolve a grievance, but only if both parties agree. Under terms spelled out in the Michigan Public Employment Relations Act of 1965 (see Appendix A), public employees are forbidden to strike. And both agreements specifically state that the unions may not engage in strikes (or management in lock-out). However, such provisions are viewed by both labor and management as being without force. As has happened elsewhere, public employees do hold strikes. A brief 2-day walk-out occurred in 1971 by the sanitation workers over the failure to reach agreement on wage rates. No other strike actions have occurred in recent years.

Present labor agreements have very strong fringe benefit provisions. In addition to regular vacation, sick and holiday leaves, employees also receive extensive hospitalization - medical coverage, workmen's compensation, layoff benefit plan, group insurance programs, longevity pay, death benefits, an eye care program, and income protection. It is estimated that fringe benefits involve about 37 percent of the total labor costs for the entire Sanitation Division, including both salaried and direct wage personnel. The non-payable costs for pension, hospitalization, social security, and other fringe benefits account for over 27 percent alone and budgeted leave accounts for the remaining 10 percent. Table 10 presents the fringe benefits for the Teamster and AFSCME members. Direct wages for both refuse collection and street cleaning wage personnel average in excess of $10,500 annually. Direct wages for a sanitation laborer are $4.82 per hour, for a truck driver about $4.84 per hour.

TABLE 10: FRINGE BENEFITS FOR UNION MEMBERS

Benefit	AFSCME	Teamsters
Seniority	Seniority list based on length of service after initial probationary period.	
Vacations	First Year Ten days per year Two to Five Years Fifteen days per year Five to Fifteen Years One additional day for each year to maximum of 30 days per year (Plus five days for those with more than 50 days of accumulated sick leave)	
Sick Leave	Three to five days	
Holidays	Eight regular holidays Two swing holidays One day for M. L. King's Birthday	
Funeral Leave	Three to five days	
Hospitalization and Medical Coverage	Employer pays 100% of Blue Cross ward rate, but city will pay only $12.00 per year for City Eye Care Insurance Program	Employer pays 100% of Blue Cross ward rate, eye and dental care for employee and dependents
Group Life Insurance	City contribution determed by Employee Benefit Board Yearly Pay Insurance <$ 5000 $ 3000 5000-7500 5000 7500-10,000 7500 10,000 10,000 (Up to $1500 for each dependent)	City pays 43¢/$1000/mo. Employee pays remainder Yearly Pay Insurance <$ 5000 $ 3950 5000-7500 6250 7500-10,000 9375 10,000 12,500 (Up to $1500 for each dependent)
Income Protection Plan	To be instituted by City	
Longevity Pay	Step 1 - > 11 years: $150/year Step 2 - > 16 years: $300/year Step 3 - > 21 years: $450/year	
Death Benefits	City pays $14.56 per year toward mandatory benefit of $4,900. Employee pays $13.00 annually. Duty dealth benefit of $2,500 paid by city.	
Jury Duty	Paid difference between jury pay and salary	
Leave of Absence	At descretion of City for physical/mental illness, maternity, training or Peace Corps Service	--

Absenteeism continues to be a major problem for the Sanitation Division management. Current reports indicate that for the Sanitation Division's direct wage personnel, the daily average number of man-days lost to vacation, sick, or absent totals 371, some 146 days greater than the budgeted total of 225 man-days. This has caused the Division to operate continuously below the minimum level of required men, necessitating more overtime than would otherwise be required. Absenteeism may be due to two causes: first, each employee receives 17 sick days per year which are convertible to bonus vacation days if they are not used; second, the problem of combined refuse and bulky item collection contributes to both injuries and sick days. Unions feel that the city should pay for the unused sick days to help alleviate their misuse.

Tenure data indicates that a low turnover rate is present in the work force. Attrition averages only 2.6 employees per week for the division, but does aggrevate the shortage of manpower caused by absenteeism.[1]

The unions are trying to get the city to institute a training program to alleviate some of the accident problems. The heavy loads (trying to pack a 25 yard truck in two hours) and the problem of jockeying the 25 yard trucks in alleys add to the accident problem.

The Teamsters have developed a highly detailed system of classifying types of truck drivers based on the skill levels required to operate equipment. This set of operator skill definitions, by class of equipment, has been made part of the contract and creates a large hierarchy of driver classifications

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[1] Detailed tenure, absenteeism and injury data were not available at the time of site visit. Data were being prepared by Detroit at the time this report was prepared.

Another Teamster achievement is the establishment of pay rates based on the average prevailing rate for comparable non-public sector jobs. Specific local firms are named in the contract and their pay rates are used as a basis for calculating city pay rates. A formula is used to calculate the final rate based on the specified set of private sector employees. Currently, the drivers receive 95 percent of the "formula" rate and will seek to have this increased to 100 percent for fiscal year 1975.

5.4: Disposal Methods - Present and Planned

The City of Detroit relies principally on transfer stations for its method of disposal. As mentioned earlier, the closing of three of the city's incinerators in 1971 has led to the establishment of transfer stations, both public and private, for the transfer of refuse to be ultimately disposed of by contractors in private landfills outside the city. The remaining incinerator operates at only one half capacity, and is used for the disposal of pathological wastes.

The city operates one transfer station, the Southfield site, which handles from 650 to 950 tons per day. The city contracts with a private hauler to remove the refuse from the transfer station to the landfill. The present hauling contract with Backman, Inc., expires June 30, 1974. The hauler is reimbursed at the rate of $4.74 per ton, and has access to three landfill sites. The Southfield site employes 9 men from the Sanitation Division.

The city also operates an "open relay station", the East Central Relay, which receives from 2,000 to 4,000 cubic yards of solid waste per day. The refuse is transferred from an open concrete dumping slab into truck trailers for disposal at landfill sites. The contract with the hauler, Backman, Inc., calls for a specified rate per mile; no volume or tonnage rates are involved. Because of the inefficient and technically obsolete way in which the refuse is handled at this facility, this station is costly to operate and will be closed down with the opening of a new private transfer station in November, 1973.

The city-operated St. Jean's incinerator handles about 150 tons of special wastes per day, requiring approximately 15 Sanitation Division employees. No efforts at resource recovery are attempted at this location. In addition, the city operates a brush burner at St. Jean's and Southfield for the disposal of brush and related wastes. About 400 cubic yards per day are handled, requiring 4 employees for each of the two shifts.

The remaining disposal sites are transfer stations operated by the private sector. The largest, Metropolitan Transfer Center, is contracted to handle 1,500 to 2,000 tons per day from the city. The average city tonnage has generally been about 1,800 tons per day. The operator, J. Fons Company, Inc., operates the facility 5 days per week, and receives $5.50 per ton from the city for receiving, hauling, and disposing of the refuse. The contract was initiated in June, 1973, for three years, with option to renew for a fourth and fifth year, at an increased rate. Since the transfer station opened, it has experienced no trouble handling any amount of refuse delivered by the city. Operation is efficient, and waiting time for weighing and load discharge is minimal. The site is very clean and well-run.

The Reitzloff Transfer Station is considerably smaller and operates under a contract to handle from 150 to 300 tons per day. The current rate is $5.88 per ton. Similarly, the B and R Transfer Station is under contract to receive from 150 to 300 tons per day, at a rate of $5.95 per ton. In each of the contracts with the private operators, the city may exercise a penalty if the station is unable to handle the maximum designated capacity. Table 2 in Chapter 2 summarizes the transfer station cost and volume data.

As noted, the city does not operate any landfill sites. Private transfer station operators and private haulers are required to make all arrangements for the ultimate disposal of refuse in the landfill sites. Some private operators also own and operate their landfill sites. Nearly all sites are located in the outlying areas of Wayne County or in adjacent counties, at some distance from the transfer stations. Since the sites are privately owned, there has not been the negative public reaction that might have resulted if the city had attempted to directly acquire and operate these sites. Surrounding counties have been vocal in their opposition to accepting Detroit's solid waste even though many are doing just that under the current system.

The Sanitation Division has no responsibility for the waste once it is discharged at the transfer stations. This, of course, has been an issue of some concern to other organizations, most notably SEMCOG, since it holds the view that public agencies must become directly involved in the planning and selection of disposal methods. The landfill method is fast losing local acceptance, according to SEMCOG, and alternatives must be explored (see discussion in Chapter 4.)

5.5 Equipment Description

The Sanitation Division has an extensive fleet of a wide variety of vehicles used to perform the collection activities in Detroit. As shown in Table 5, (Section 5.1.1) the majority of vehicles are packer trucks with 16, 20, or 25 yard capacities. The division also has 78 six-ton or larger dump trucks, 36 street sweepers, 29 tractors, and 19 street flushers, in addition to special vehicles and passenger cars allotted to the division.

The Public Works Department owns all of the vehicles listed; all maintenance and repair work is done by the Motor Transportation Division, also a part of the Department of Public Works. Table 11 presents the six month operating costs for all Sanitation Division vehicles; Type 22 vehicles are packers, which exhibit an average annual operating and maintenance cost of $8,388. The Motor Transportation Division services all city vehicles except Fire Department vehicles. The present listing will shortly be augmented with the purchase of 43 additional 25 yard packers.

5.5.1: Financing and Cost

All new and replacement equipment is funded from a line item expenditure in the current General Fund account. No sinking fund or depreciation account is utilized for these purchases. Packers are currently being retired after 8 years. Expenditures for motor vehicle equipment purchases currently average about 5 percent of the total budgeted Sanitation Division expenditures. However, since the division is currently trying to make up for the two years it failed to purchase vehicles, it is likely that vehicle purchases will become an increasingly significant part of the total expenditures.

5.5.2: vehicle Maintenance Policies

The Motor Transportation Division, which has an exceptionally able management staff, has a regular schedule of preventive maintenance policies for the Sanitation Division packers. The 25 yard packers receive inspection and lubrication every 1,000 miles or 30 days. The inspection covers 20 specific points, e.g., oil pans, power steering, power take-off and transmissions, drivetrains, etc. For the 20 yard and 16 yard packers, lubrication and oil change is performed every 30 days or 1,000 miles. However, the manpower shortage truncates the full 20 point inspection that is

TABLE 11: COLLECTION VEHICLE OPERATING COSTS

Type	No.	MPG	Opr. CPM	Maint. CPM	Total CPM	Miles	Gallons Gas	Qts. Oil	Overhead	Opr. Cost	Maint. Cost	Total Cost
--	2	-	-	-	-	-	24	96	2,700	355	1,992	5.047
00	2	18.0	5.44	.33	6.26	18,083	1,000	16	87	985	60	1,132
01	29	12.1	3.21	2.93	8.57	322,561	26,602	728	7,803	10,383	9,476	27,662
02	17	9.0	3.40	3.59	10.31	140,106	15,557	421	4,647	4,774	5,031	14,452
05	3	9.9	2.99	4.12	10.76	26,726	2,693	65	972	801	1,103	2,876
06	3	9.2	3.01	2.98	8.98	47,645	5,155	18	1,389	1.435	1,423	4,247
07	1	11.0	5.54	.96	7.74	6,051	551	27	75	338	55	472
08	3	11.3	3.91	3.52	10.60	35,177	3,098	121	1,115	1.376	1,239	3,730
09	1	9.5	5,49	5.10	15.19	7,386	777	51	339	406	377	1,122
11	6	5.4	9.00	19.79	49.77	25,416	4,683	381	5,330	2,288	5,032	12,650
15	78	3.1	12.44	23.61	57.25	481,113	150,478	6,458	101,970	59.868	113,605	275,443
22	487	2.6	11.06	24.03	57.04	3,580,379	1,376,885	56,110	786,027	356.040	860,497	2,042,564
23	1	1.9	15.04	22.04	63.89	6,246	3,228	95	1,674	940	1,377	3,991
24	29	-	-	-	-	-	9,486	875	18,777	6.198	15,861	40,836
26	19	1.9	15.66	25.03	67.03	58,179	30,283	1,375	15,326	9.111	14,563	39,000
27	36	.2	36.06	64.09	86.13	9,795	46,358	3,048	155,346	13,328	162,998	331,672
28	3	8.1	4.76	8.25	22.72	28,015	3,444	191	2,718	1,336	2,313	6,367
29	7	4.1	7.60	15.55	35.08	44,456	10,642	858	5,305	3,379	6,515	15,599
35	2	6.7	6.03	1.46	9.50	11,695	1,742	54	235	706	171	1,112
36	5	0	15.91	24.35	41.89	3,330	-	-	54	530	811	1,395
37	1	0	0	0	0	-	-	-	-	154	-	154
43	15	0	0	0	0	-	7,837	860	18,494	3,977	16,851	39,322
45	4	0	0	0	0	-	-	-	390	475	466	1,331
46	10	0	19.95	55.68	16.19	7,472	-	103	3,030	1,491	4,161	8,682
47	7	0	0	0	0	-	9	284	6,156	987	5,090	12,333
48	4	0	0	0	0	-	27	297	8,932	1,093	7,409	17,434
49	1	0	0	0	0	-	12	34	451	228	328	1,007
	781					4,859,871	1,700,581	72,716	1,149,342	522,982	1,239,208	2,911,532

provided for the 25 yard packers. Maintenance occurs only at times when vehicles break down.

One of the major problems in the solid waste management system is the difficulty in keeping an adequate number of packers operational. Several causes were identified, the most significant being the shortage of skilled maintenance workers to repair the vehicles. Although the number of vehicles serviced by the Motor Transportation Division has risen nearly 25 percent in the past decade, the number of mechanics has actually declined. Added to this is the increased complexity of the vehicles (pollution control valve systems, etc.) which requires more extensive and intricate maintenance work. Although the Motor Transportation Division has recently been called before the Common Council to discuss the delays in repairs and has presented its case in terms of the shortage of manpower, no resolution of the problem seems to be forthcoming.

Another factor in the vehicle maintenance problem has been the practice of loading large bulky items in the packer trucks along with the regular mixed refuse. Although the Heil packers can handle bulky waste if loaded properly, it appears that collectors are often careless in loading and compacting these items, causing the compacting mechanism to fail. This adds to the maintenenace problem. The Motor Transportation staff also reports that they will shortly run out of sufficient floor space to handle the repair volume and that more modern tools are necessary.

It may be noted that on a per unit basis the maintenance and operating costs are not unusual in magnitude. However, it seems that even though maintenance needs are high, which would be reflected in high maintenance costs, the work is simply being delayed. Table 12 illustrates the number of trucks awaiting repair at the time of the site visit. Thirty-nine of the 179, twenty-five cubic yard trucks (21 percent) and 167 of the total of 466 packers (37 percent) were in a "down" status.

TABLE 12: PACKER TRUCKS AWAITING REPAIR

PACKER SIZE	DISTRICT							
	East Central	South East	North East	West Central	South West	North West	West	Total
16 yd^3	10	5	13	7	9	14	13	71
20 yd^3	13	4	5	14	6	5	10	57
25 yd^3	3	2	6	4	2	11	11	39
Total Per District	26	11	24	25	27	30	34	167

The Motor Transportation Division has streamlined procedures over the past few years, in order to minimize the effect of the manpower shortage, but is still unable to perform the required maintenance without delays. With such extensive vehicle down time, the Sanitation Division has been forced to use older vehicles, or has been delayed in completing regular routes.

5.5.3: Vehicle Replacement Policies

As noted, packer trucks are currently on an 8 year replacement program. Previously, packers were retired after 7 years, but the failure to purchase vehicles in 1968 and 1971 necessitated the extension of the useful life. The purchase of new 25 yard packers may allow the division to return to a useful life of 7 years.

The decision to purchase vehicles is made by the Motor Transportation Division staff, in conjunction with the Sanitation Division management. Specifications and delivery terms are prepared for competitive bidding. Bids are requested from leading manufacturers; the lowest responsible bid is accepted. In 1971, one of the years that purchase of vehicles was delayed, a low bid was submitted by a company with whose vehicles the city had experienced problems in handling the bulky wastes. Since the Sanitation Division felt they could not refject the bid outright yet did not wish to purchase additional vehicles from this firm, vehicle purchases were delayed. At this time, the feasibility of the 1-man truck operation was being explored.

When vehicles are no longer useful to the Sanitation Division, they are either traded for new vehicles or re-allocated to another department, such as the Parks Department, for their programs.

5.6: Financial Aspects of the Detroit Solid Waste Management System

The municipal solid waste management system of Detroit currently relies on the General Fund as its sole funding source. Although the solid waste management system does collect some revenues directly for services rendered, these monies are contributed to the General Fund and are not earmarked for solid waste operations. In the past, the system has made use of additional funding sources from Federal and State governments, and bonds have been utilized for the acquisition of capital assets. However, capital equipment, such as motor vehicles, are purchased on a current funds basis; they would appear as a line item in the current year's budget.

The development of the budget is coordinated by the Budget Office for the city, but each department is responsible for the preparation of its own budget request. Using standard forms and instructions supplied by the Budget Office, the Department of Public Works estimates its program needs for the coming fiscal year. Included in the formulation of the budget is the previous year's data, costs for each operational unit, projected percentage changes, expansion of services, etc. Although the capital budget will include a 5 year projection, the operating budget is prepared only for the coming fiscal year. The budget, as currently developed, essentially is a very traditional line-item budget: it does not include the program budget concepts based on grouping major expenditure categories by function and activity. It lists all expenditures by department or divisional breakdowns. This tends to understate the true costs of the sanitation services, since indirect expenditures and services contributed by other departments are not stated in the budget document. However, in cost statements prepared every 4 weeks, these items are included, so that the actual costs are computed, at least for cost accounting and management purposes, if not for budgetary consideration. The Department of Public Works does accumulate extensive data on a regular basis, reflecting current cost of operations at a very detailed level.

5.6.1: Sources of Revenue

The General Fund finances all the operations of the Sanitation Division in Detroit, excluding Federal and State monies that have been available in the past. For the General Fund, Detroit utilizes several tax sources, as shown in Table 13 for 1972. General property taxes made up about 35 percent of the revenues for the General Fund. Other major sources include a city income tax, a utility users tax, shared taxes and grants, and other revenues. The category "shared taxes and grants" is composed of Federal and State grants and other assistance. "Other revenues" is made up of miscellaneous city revenue sources, principally from hospital and clinic services, departmental sales and charges for current services, and traffic and other ordinance fines.

Revenues raised from the operation of the Sanitation Division for the past 5 years are shown in Table 14. Of note is the revenue raised from commercial refuse, about $1.17 million in 1972. These revenues are derived from the user charges the city levies for refuse collection from commercial establishments. The rate is currently $.35 per bushel, with a 20 bushel exemption. The number of commercial stops is presently about 6,200, down significantly from a level of 10,000 accounts of five years ago due to increased competition from private sector collectors.

The Sanitation Division views this service not as a large revenue raising source, but rather as a service to small commercial establishments who would otherwise need to obtain more costly private pick-up service. However, the division has raised

TABLE 13

City of Detroit
GENERAL FUND
STATEMENTS OF REVENUE

Years Ended June 30, 1972 and June 30, 1971

Classification	Year Ended June 30		Increase (Decrease)
	1972	1971	
General Property Taxes and Interest:			
Current Year	$144,279,750	$137,825,037	$ 6,454,713
Prior Years	3,243,301	2,538,956	704,345
Interest	629,334	553,327	76,007
Total General Property Taxes and Interest	$148,152,385	$140,917,320	$ 7,235,065
City Income Taxes	94,473,030	88,222,286	6,250,744
Utility Users Excise Tax	16,724,276	10,662,570	6,061,706
Shared Taxes and Grants:			
From Federal Government:			
Capital Project Grants	$ 1,067,696	$ 665,483	$ 402,213
Law Enforcement Assistance Grants	2,589,355	516,120	2,073,235
Building Demolition Grants	550,642	195,740	354,902
Health Services Grants	2,086,659	1,447,611	639,048
Environment Improvement Grant	345,404	764,700	(419,296)
Other Federal Grants	877,250	1,202,328	(325,078)
From State of Michigan:			
State Sales Tax	18,231,969	16,236,716	1,995,253
State Income Tax	15,956,510	4,963,749	10,992,761
State Intangibles Tax	9,058,396	1,624,680	7,433,716
State Motor Vehicle and Gasoline Taxes	20,323,078	19,497,958	825,120
State Urban Assistance Grant for Police and Fire	....	5,000,000	(5,000,000)
Other State Shared Taxes and Grants	1,509,915	1,416,290	93,625
Total Shared Taxes and Grants	$ 72,596,874	$ 53,531,375	$19,065,499
Other Revenue:			
Licenses and Permits	$ 5,935,954	$ 4,925,511	$ 1,010,443
Traffic and Other Ordinance Violation Fines	9,867,266	9,557,946	309,320
Other Fines and Forfeits	65,725	59,630	6,095
Income on Investments	3,528,789	4,128,747	(599,958)
Rentals and Concessions—General	596,455	539,670	56,785
Gifts and Bequests (including transfers from Trust Funds)	246,601	112,642	133,959
Reimbursed Hospital and Clinic Services—Other Governmental Units	19,571,991	22,723,567	(3,151,576)
Pay Patients—Hospitals and Clinics	5,530,733	4,134,732	1,396,001
Prisoners' Maintenance	3,451,796	2,616,604	835,192
Refectory and Lunchroom Sales	1,424,414	1,874,634	(450,220)
Rentals and Concessions—Departmental	2,649,348	2,731,864	(82,516)
Sales of Fuel, Heat, Light, and Power—Interdepartmental and Governmental Agencies	8,446,058	7,966,409	479,649
Reimbursed Construction and Maintenance:			
State Highway Maintenance	686,877	951,597	(264,720)
Other Construction and Maintenance	5,315,005	4,595,041	719,964
Reimbursed Freeway Bond Payments—State	495,427	495,427	....
Amusement Fees	1,373,110	1,340,774	32,336
Commercial Refuse Disposal	1,169,307	1,345,400	(176,093)
Other Departmental Sales and Charges for Current Services	17,206,711	13,790,325	3,416,386
Special Assessment Collections (including interest)	130,706	132,270	(1,564)
Housing Payments in Lieu of Taxes	108,259	125,074	(16,815)
Proceeds from Sales of Real Estate	3,563,953	1,933,982	1,629,971
Reimbursed Services—Model Neighborhood Program	1,222,575	1,038,426	184,149
Reimbursed Services—Public Employment Program Fund (Police Department)	444,832	....	444,832
Recovery of City Equity—Sewage Disposal System	2,551,437	10,186,000	(7,634,563)
Presidential Primary Election Reimbursement—State	359,152	....	359,152
Recovery of Election Costs from Datamedia Corporation	60,000	125,000	(65,000)
Transfer of Surplus from Other Funds	75,000	103,205	(28,205)
Miscellaneous	223,575	105,774	117,801
Total Other Revenue	$ 96,301,056	$ 97,640,251	$ (1,339,195)
Total Shared Taxes, Grants, and Other Revenue	$168,897,930	$151,171,626	$17,726,304
Total Revenue Other than Proceeds from Sales of Bonds	$428,247,621	$390,973,802	$37,273,819
Proceeds from Sales of Bonds:			
Judgment Bonds for Tax Refund Judgments	....	3,275,000	(3,275,000)
General Bonds for Capital Projects	27,950,000	26,285,000	1,665,000
Total Revenue	$456,197,621	$420,533,802	$35,663,819

TABLE 14: REVENUES RAISED BY SANITATION DIVISION OBJECTIVES DETROIT, MICHIGAN, 1968 to 1972

	1972	1971	1970	1969	1968
Reimbursed Highway Maintenance - State	269,928	349,114	341,525	194,020	235,347
Reimbursed Construction and Maintenance	86,680	98,392	55,677	19,302	24,729
Commercial Refuse Disposal	1,169,307	1,345,400	1,938,073	1,535,417	1,306,836
Miscellaneous	18,029	12,111	4,161	2,083	2,389
Total	1,543,944	1,805,017	2,339,436	1,750,822	1,569,301

the rates for commercial pick-up several times in recent years, and another proposed rate increase is now pending before the Common Council. No doubt, these rate increases are a factor in the decrease in the number of commercial stops served by the city.

Federal revenue sources used in part to finance Sanitation Division Services include: the Interim Assistance Program; Revenue Sharing; the Emergency Employment Program; and, the Environmental Improvement Program. The present lot clearing program, coordinated with the Community Development Commission, providing 44 men and was financed with Revenue Sharing Funds of $500,000.

5.6.2: Expenditures

The Sanitation Division expenditures are monitored by means of monthly cost statements which list both line item direct expenditures and indirect costs, and the monthy and year-to-date expenditures for the current year and the preceding year (see Appendix H). Daily requests for expenditures are monitored for both appropriateness and availability of funds. Expenditures to all departments are allotted quarterly.

In Table 15, a summary of total Sanitation Division Expenditures for the previous 5 years is presented by Detroit. Appendix N presents the detailed line item budgeted for Fiscal Year 1973-74. Listed are all costs involved in Sanitation Division activities, including indirect and direct costs budgeted to other divisions, such as the Motor Transportation Division costs.

As can be seen, the solid waste collection activity comprises nearly 70 percent of the total costs. Solid waste disposal activities account for 16 percent, while street cleaning is just over 6 percent. Collection expenditures have shown the largest increase over the past 5 years, rising 45 percent dur-that period. Overall, Sanitation Division costs have risen nearly 39 percent in five years, unadjusted for inflation.

TABLE 15

EXPENDITURE SUMMARY FOR SANITATION DIVISION BY ACTIVITY, DETROIT, MICHIGAN
1969 to 1973

	1973[1]	1972	1971	1970	1969
Refuse Collection	$28,284,250	$25,457,580	$22,855,365	$22,496,492	$19,681,841
Refuse Disposal	6,516,407	6,340,711	5,831,041	6,885,592	6,185,061
Street Cleaning	2,654,694	1,894,520	2,149,554	2,321,410	1,877,860
Services & Materials to Others	176,068	94,569	247,403	126,480	47,253
Environmental Enforcement	1,636,891	984,777	-	-	-
Snow and Ice Removal	1,145,920	1,115,430	2,056,440	2,236,587	1,015,150
Commercial Refuse Inspection				369,245	257,268
TOTAL	$40,413,230	$35,887,587	$33,139,440	$34,435,806	$29,070,075

[1] Projected for 52 weeks, based on actual costs for 44 weeks.

As seen in Table 16, wages and salaries account for most of the solid waste collection costs. Nearly two-thirds of the total costs fall in this category. When fringe benefits, which account for nearly 24 percent of total costs are added, direct labor costs amount to over 90 percent of total collection expenditures. Detroit's solid waste management system is highly labor intensive and equipment depreciation is not considered as an operating cost. While total collection costs have increased by 45 percent in 5 years, wages and salaries have increased by 37 percent, and fringe benefits have increased by 109 percent. The effects of the very substantial fringe benefit package that has been won through strong unionization is quite evident in these figures.

TABLE 16

COSTS FOR REFUSE COLLECTION BY OBJECT CODE; DETROIT, MICHIGAN

1969 to 1973

	1973	1972	1971	1970	1969
Wages and Salaries	$18,828,875	$16,867,716	$15,354,090	$14,676,777	$13,735,437
Fringe Benefits	6,773,035	6,106,469	4,504,453	4,757,755	3,239,513
Materials, Supplies	167,969	153,763	137,246	114,614	113,884
Equipment	2,013,004	1,717,008	2,306,027	2,395,006	2,312,252
Other	501,367	612,624	553,549	552,340	280,755
	$28,284,250	$25,457,580	$22,855,365	$22,496,492	$19,681,841

APPENDICES

APPENDIX A

MICHIGAN PUBLIC EMPLOYMENT RELATIONS ACT

Public Employment Relations Act

Act 336 of the Public Acts of 1947 as amended.

An act to prohibit strikes by certain public employees; to provide review from disciplinary action with respect thereto; to provide for the mediation of grievances and the holding of elections; to declare and protect the rights and privileges of public employees; and to prescribe means of enforcement and penalties for the violation of the provisions of this act.

The People of the State of Michigan enact:

17.455(1) Strike defined.

Sec. 1. As used in this act the word "strike" shall mean the concerted failure to report for duty, the wilful absence from one's position, the stoppage of work, or the abstinence in whole or in part from the full, faithful and proper performance of the duties of employment, for the purpose of inducing, influencing or coercing a change in the conditions, or compensation, or the rights, privileges or obligations of employment. Nothing contained in this act shall be construed to limit, impair or affect the right of any public employee to the expression or communication of a view, grievance, complaint or opinion on any matter related to the conditions or compensation of public employment or their betterment, so long as the same is not designed to and does not interfere with the full, faithful and proper performance of the duties of employment.

17.455(2) Strikes by public employees prohibited.

Sec. 2. No person holding a position by appointment or employment in the government of the state of Michigan, or in the government of any 1 or more of the political subdivisions thereof, or in the public school service, or in any public or special district, or in the service of any authority, commission, or board, or in any other branch of the public service, hereinafter called a "public employee," shall strike.

17.455(3) Authorizing strike, etc., unlawful.

Sec. 3. No person exercising any authority, supervision or direction over any public employee shall have the power to authorize, approve or consent to a strike by public employees, and such person shall not authorize, approve or consent to such strike, nor shall any such person discharge or cause any public employee to be discharged or separated from his or her employment because of participation in the submission of a grievance in accordance with the provisions of section 7.

17.455(4) Appointment, etc., terminated.

Sec. 4. (Repealed by Public Acts 1965 No. 379).

17.455(4a) State employees.

Sec. 4a. The provisions of this act as to state employees within the jurisdiction of the civil service commission shall be deemed to apply in so far as the power exists in the legislature to control employment by the state or the emoluments thereof.

17.455(5) Reappointment, etc., conditions.

Sec. 5. (Repealed by Public Acts 1965 No. 379).

17.455(6) When deemed on strike.

Sec. 6. Notwithstanding the provisions of any other law, any person holding such a position who, by concerted action with others, and without the lawful approval of his superior, wilfully absents himself from his position, or abstains in whole or in part from the full, faithful and proper performance of his duties for the purpose of inducing, influencing or coercing a change in the conditions or compensation, or the rights, privileges or obligations of employment shall be deemed to be on strike but the person, upon request, shall be entitled to a determination as to whether he did violate the provisions of this act. The request shall be filed in writing, with the officer or body having power to remove or discipline such employee, within 10 days after regular compensation of such employee has ceased or other discipline has been imposed. In the event of such request the officer or body shall within 10 days commence a proceeding for the determination of whether the provisions of this act have been violated by the public employee, in accordance with the law and regulations appropriate to a proceeding to remove the public employee. The proceedings shall be undertaken without unnecessary delay. The decision of the proceeding shall be made within 10 days. If the employee involved is held to have violated this law and his employment terminated or other discipline imposed, he shall have the right of review to the circuit court having jurisdiction of the parties, within 30 days from such decision, for determination whether such decision is supported by competent, material and substantial evidence on the whole record.

17.455(7) Mediating grievances.

Sec. 7. Upon the request of the collective bargaining representative defined in section 11, or if no representative has been designated or selected, upon the request of a majority of any given group of public employees evidenced by a petition signed by said majority and delivered to the labor mediation board, or upon request of any public employer of such employees, it shall be the duty of the labor mediation board to forthwith mediate the grievances set forth in said petition or notice, and for the purposes of mediating such grievances, the labor mediation board shall exercise the powers and authority conferred upon said board by sections 10 and 11 of Act No. 176 of the Public Acts of 1939.

17.455(8) Misdemeanor, penalty.

Sec. 8. (Repealed by Public Acts 1965 No. 379).

17.455(9) Forming or joining labor organizations; collective bargaining.

Sec. 9. It shall be lawful for public employees to organize together or to form, joint or assist in labor organizations, to engage in lawful concerted activities for the purpose of collective negotiation or bargaining or other mutual aid and protection, or to negotiate or bargain collectively with their public employers through representatives of their own free choice.

17.455(10) Interference or discrimination by employer prohibited.

Sec. 10. It shall be unlawful for a public employer or an officer or agent of a public employer (a) to interfere with, restrain or coerce public employees in the exercise of their rights guaranteed in section 9; (b) to initiate, create, dominate, contribute to or interfere with the formation or administration of any labor organization: Provided, That a public employer shall not be prohibited from permitting employees to confer with it during working hours without loss of time or pay; (c) to discriminate in regard to hire, terms or other conditions of employment in order to encourage or discourage membership in a labor organization; (d) to discriminate against a public employee because he has given testimony or instituted proceedings under this act; or (e) to refuse to bargain collectively with the representatives of its public employees, subject to the provisions of section 11.

17.455(11) Exclusive bargaining representatives; rights of individual employees.

Sec. 11. Representatives designated or selected for purposes of collective bargaining by the majority of the public employees in a unit appropriate for such purposes, shall be the exclusive representatives of all the public employees in such unit for the purposes of collective bargaining in respect to rates of pay, wages, hours of employment or other conditions of employment, and shall be so recognized by the public employer: Provided, That any individual employee at any time may present grievances to his employer and have the grievances adjusted, without intervention of the bargaining representative, if the adjustment is not inconsistent with the terms of a collective bargaining contract or agreement then in effect, provided that the bargaining representative has been given opportunity to be present at such adjustment.

17.455(12) Petition; investigation; hearing; election; stipulation for consent election; procedure.

Sec. 12. Whenever a petition shall have been filed, in accordance with such regulations as may be prescribed by the board:

(a) By a public employee or group of public employees, or an individual or labor organization acting in their behalf, alleging that 30% or more of the public employees within a unit claimed to be appropriate for such purpose wish to be represented for collective bargaining and that their public employer declines to recognize their representative as the representative defined in section 11, or assert that the individual or labor organization, which has been certified or is being currently recognized by their public employer as the bargaining representative, is no longer a representative as defined in section 11; or

(b) By a public employer or his representative alleging that 1 or more individuals or labor organizations have presented to him a claim to be recognized as the representative defined in section 11;

the board shall investigate the petition and, if it has reasonable cause to believe that a question of representation exists, shall provide an appropriate hearing after due notice. If the board finds upon the record of the hearing that such a question of representation exists, it shall direct an election by secret ballot and shall certify the results thereof. Nothing in this section shall be construed to prohibit the waiving of hearings by stipulation for the purpose of a consent election in conformity with the rules and regulations of the board.

17.455(13) Bargaining unit; status of fire fighting personnel.

Sec. 13. The board shall decide in each case, in order to insure public employees the full benefit of their right to self-organization, to collective bargaining and otherwise to effectuate the policies of this act, the unit appropriate for the purposes of collective bargaining as provided in section 9e of Act No. 176 of the Public Acts of 1939: Provided, That in any fire department, or any department in whole or part engaged in, or having the responsibility of, fire fighting, no person subordinate to a fire commission, fire commissioner, safety director, or other similar administrative agency or administrator, shall be deemed to be a supervisor.

17.455(14) Elections; time for holding; determining eligibility; runoff; effect of collective bargaining agreement; contract bar.

Sec. 14. An election shall not be directed in any bargaining unit or any subdivision within which, in the preceding 12-month period, a valid election has been held. The board shall determine who is eligible to vote in the election and shall establish rules governing the election. In an election involving more than 2 choices, where none of the choices on the ballot receives a majority vote, a runoff election shall be conducted between the 2 choices receiving the 2 largest numbers of valid votes cast in the election. No election shall be directed in any bargaining unit or subdivision thereof where there is in force and effect a valid collective bargaining agreement which was not prematurely extended and which is of fixed duration: Provided, however, no collective bargaining agreement shall bar an election upon the petition of persons not parties thereto where more than 3 years have elapsed since the agreement's execution or last timely renewal, whichever was later.

17.455(15) Collective bargaining duty of employer; what constitutes bargaining.

Sec. 15. A public employer shall bargain collectively with the representatives of its employees as defined in section 11 and is authorized to make and enter into collective bargaining agreements with such representatives. For the purposes of this section, to bargain collectively is the performance of the mutual obligation of the employer and the representative of the employees to meet at reasonable times and confer in good faith with respect to wages, hours, and other terms and conditions of employment, or the negotiation of an agreement, or any question arising thereunder, and the execution of a written contract, ordinance or resolution incorporating any agreement reached if requested by either party, but such obligation does not compel either party to agree to a proposal or require the making of a concession.

17.455(16) Unfair labor practices; remedies and procedure.

Sec. 16. Violations of the provisions of section 10 shall be deemed to be unfair labor practices remediable by the labor mediation board in the following manner:

(a) Whenever it is charged that any person has engaged in or is engaging in any such unfair labor practice, the board, or any agent designated by the board for such purposes, may issue and cause to be served upon the person a complaint stating the charges in that respect, and containing a notice of hearing before the board or a member thereof, or before a designated agent, at a place therein fixed, not less than 5 days after the serving of the complaint. No complaint shall issue based upon any unfair labor practice occurring more than 6 months prior to the filing of the charge with the board and the service of a copy thereof upon the person against whom the charge is made, unless the person aggrieved thereby was prevented from filing the charge by reason of service in the armed forces, in which event the 6-month period shall be computed from the day of his discharge. Any complaint may be amended by the member or agent conducting the hearing or the board, at any time prior to the issuance of an order based thereon. The person upon whom the complaint is served may file an answer to the original or amended complaint and appear in person or otherwise and give testimony at the place and time fixed in the complaint. In the discretion of the member or agent conducting the hearing or the board, any other person may be allowed to intervene in the proceeding and to present testimony. Any proceeding shall be conducted in accordance with the provisions of section 5 of Act No. 197 of the Public Acts of 1952, as amended, being section 24.105 of the Compiled Laws of 1948.

(b) The testimony taken by the member, agent or the board shall be reduced to writing and filed with the board. Thereafter the board upon notice may take further testimony or hear argument. If upon the preponderance of the testimony taken the board is of the opinion that any person named in the complaint has engaged in or is engaging in the unfair labor practice, then it shall state its findings of fact and shall issue and cause to be served on the person an order requiring him to cease and desist from the unfair labor practice, and to take such affirmative action including reinstatement of employees with or without back pay, as will effectuate the policies of this act. The order may further require the person to make reports from time to time showing the extent to which he has complied with the order. If upon the preponderance of the testimony taken the board is not of the opinion that the person named in the complaint has engaged in or is engaging in the unfair labor practice, then the board shall state its findings of fact and shall issue an order dismissing the complaint. No order of the board shall require the reinstatement of any individual as an employee who has been suspended or discharged, or the payment to him of any back pay, if the individual was suspended or discharged for cause. If the evidence is presented before a member of the board, or before examiners thereof, the member, or examiners shall issue and cause to be served on the parties to the proceeding a proposed report, together with a recommended order, which shall be filed with the board, and if no exceptions are filed within 20 days after service thereof upon the parties, or within such further period as the board may authorize, the recommended order shall become the order of the board and become effective as prescribed in the order.

(c) Until the record in a case has been filed in a court, the board at any time, upon reasonable notice and in such manner as it deems proper, may modify or set aside, in whole or in part, any finding or order made or issued by it.

(d) The board may petition the court of appeals for the enforcement of the order and for appropriate temporary relief or restraining order, and shall file in the court the record in the proceedings. Upon the filing of the petition, the court shall cause notice thereof to be served upon the person, and thereupon shall have jurisdiction of the proceeding and shall grant such temporary or permanent relief or restraining order as it deems just and proper, enforcing, modifying, enforcing as so modified, or setting aside in whole or in part the order of the board. No objection that has not been urged before the board, its member or agent, shall be considered by the court, unless the failure or neglect to urge the objection is excused because of extraordinary circumstances. The findings of the board with respect to questions of fact if supported by competent, material and substantial evidence on the record considered as a whole shall be conclusive. If either party applies to the court for leave to present additional evidence and shows to the satisfaction of the court that the additional evidence is material and that there were reasonable grounds for the failure to present it in the hearing before the board, its member or agent, the court may order the additional evidence to be taken before the board, its member or agent, and to be made a part of the record. The board may modify its findings as to the facts, or make new findings, by reason of additional evidence so taken and filed, and it shall file the modifying or new findings, which findings with respect to questions of fact if supported by competent, material and substantial evidence on the record considered as a whole shall be conclusive, and shall file its recommendations, if any, for the modification or setting aside of its original order. Upon the filing of the record with it the jurisdiction of the court shall be exclusive and its judgment and decree shall be final, except that the same shall be subject to review by the supreme court in accordance with the general court rules.

(e) Any person aggrieved by a final order of the board granting or denying in whole or in part the relief sought may obtain a review of such order in the court of appeals by filing in the court a complaint praying that the order of the board be modified or set aside, with copy of the complaint filed on the board, and thereupon the aggrieved party shall file in the court the record in the proceeding, certified by the board. Upon the filing of the complaint, the court shall proceed in the same manner as in the case of an application by the board under subsection (d), and shall grant to the board such temporary relief or restraining order as it deems just and proper, enforcing, modifying, enforcing as so modified, or setting aside in whole or in part the order of the board. The findings of the board with respect to questions of fact if supported by competent, material and substantial evidence on the record considered as a whole shall be conclusive.

(f) The commencement of proceedings under subsections (d) or (e) shall not, unless specifically ordered by the court, operate as a stay of the board's order.

(g) Complaints filed under this act shall be heard expeditiously by the court to which presented, and for good cause shown shall take precedence over all other civil matters except earlier matters of the same character.

(h) The board shall have power, upon issuance of a complaint as provided in subsection (a) charging that any person has engaged in or is engaging in an unfair labor practice, to petition any circuit court within any circuit where the unfair labor practice in question is alleged to have occurred or where such person resides or exercises or may exercise its governmental authority, for appropriate temporary relief or restraining order, in accordance with the general court rules, and the court shall have jurisdiction to grant to the board such temporary relief or restraining order as it deems just and proper.

(i) For the purpose of all hearings and investigations, which in the opinion of the board are necessary and proper for the exercise of the powers vested in it under this section, the provisions of section 11 of Act No. 176 of the Public Acts of 1939, being section 423.11 of the Compiled Laws of 1948, shall be applicable, except that subpoenas may issue as provided in section 11 without regard to whether mediation shall have been undertaken.

(j) The labor relations and mediation functions of this act shall be separately administered by the board.

APPENDIX B

GUIDELINES FOR TRAINING EQUIPMENT OPERATORS

DETROIT CIVIL SERVICE COMMISSION
GUIDELINES FOR
TRAINING EQUIPMENT OPERATORS

(See Article 21 of Labor Contract with Teamsters Local 214 dated 12-4-67)

Each department having employees in the Equipment Operator classes covered by the labor contract with the Teamsters Local 214, will observe the following guidelines for the training of operators:

1. The senior employee who is, in accordance with the labor agreement, most eligible for training and promotion to the next higher level position for which an opening is anticipated, may be assigned for initial training for a period not exceeding the number of days specified as follows:

Vehicle Operator	15
Street Sweeping Machine Operator	20
Bulldozer Operator	20
Construction Equipment Operator	90
Sr. Construction Equipment Operator	120
Line Helper Driver	30
Sr. Line Helper Driver	10
Asphalt Roller Operator	120

   If the employee is being trained for a position more than one level above his present position, the maximum period of training will be increased accordingly.

2. Training assignments during this period shall consist of observing and working with an experienced and qualified operator, receiving instruction from another person who is qualified to give instructions on the particular type of equipment involved, and practice operation. The practice operation will include both manipulation of the controls and the moving, or processing of materials under typical working conditions for the type of equipment involved. During the practice period, the trainee will be closely supervised and given additional instruction as needed. Instruction on equipment operation may be given by any of the following: experienced operators, supervisors, safety officers, instructors or other persons, provided that they are qualified to instruct and have been authorized and assigned to do so.

3. A minimum of one day of group instruction on safety and proper care of equipment is recommended as part of the training for each level of operating positions. Additional classroom training for review purposes or when new equipment is introduced is also recommended. The Training Division will help departmental supervisors plan and arrange instruction as needed. No operator will suffer any loss of pay or benefits as a result of attending the training sessions.
4. The minimum period of training on-the-job on any equipment with the trainee working with and under the direct supervision of a qualified operator will be one full working day if the trainee has had no prior training or experience on the same kind of equipment.
5. The actual number of days of training on any one type of equipment or for any given class of operator position will depend on the prior training and experience and skill of the employee. He may and should be recommended for a pre-qualifying advisory examination as soon as his supervisor believes he is able to operate the equipment and perform the duties of the higher class in a safe and efficient manner.
6. Whenever feasible, the "trainee" will be trained to operate every type of equipment that he may be reasonably expected to operate after promotion to the higher class.
7. In case it is not possible or reasonable due to the nature of the work schedule or personnel shortage, to provide training on all types of equipment included in a given class of operator position, the trainee will be promoted on a provisional, temporary or probationary basis if he is given a regular operating assignment normally performed by an employee in the higher level class.

8. If after a provisional or probationary promotion an employee is unable to perform in a satisfactory manner and needs additional training, he may be returned to his former status for the period of additional training or to his former assignment until it is feasible to complete his training.

9. When new equipment is introduced and if training in its operation is provided by the manufacturer, a reasonable effort will be made to have the training given directly to the employee or employees who will be operating the equipment.

10. When an employee is placed in training for an equipment operator position, the department will immediately notify the Civil Service Commission in writing stating the title of the class for which he is being trained, what training, if any, he has already completed, the kinds of equipment on which he will be trained, the starting date of training, and the projected completion date. The letter will also include a request for an advisory examination to be given at the end of the designated period of training.

Submitted: 11-12-68

APPENDIX C

CITY CODE AND AMENDMENTS
PERTAINING TO REFUSE COLLECTION AND DISPOSAL

CHAPTER 25.

Garbage, Refuse and Weeds.[1]

Article I. Collection and Disposal of Municipal Waste.

Division 1. Generally.

§ 25-1-1. Definitions.
§ 25-1-2. Purpose and intent of article.
§ 25-1-3. Authority of commissioners of certain departments to adopt rules and regulations; enforcement of article.
§ 25-1-4. Deposit of dangerous substances in public places prohibited; disposition of medicines, drugs, etc.
§ 25-1-5. Transportation of garbage, rubbish, etc., through streets.
§ 25-1-6. Punishment for violation of article does not authorize continuance of violation.

Division 2. Separation and Disposal.

§ 25-1-7. Separation of waste material for collection by city.
§ 25-1-8. Domestic garbage to be drained and wrapped; storage of same in uncovered receptacles prohibited; burning of same.
§ 25-1-9. Garbage from commercial establishments to be drained; storage in uncovered receptacles prohibited; burning of same.
§ 25-1-10. Collection of domestic and commercial rubbish; burning of rubbish.
§ 25-1-11. Small dead animals to be collected by city; responsibility of owner for disposal of dead animals weighing over one hundred pounds.
§ 25-1-12. Manure.
§ 25-1-13. Bulk rubbish.
§ 25-1-14. Cuttings of brush, shrubbery, etc.
§ 25-1-15. Infectious materials.

Division 3. Receptacles.

§ 25-1-16. Single or two-family dwellings.
§ 25-1-17. Multiple dwellings.
§ 25-1-18. Commercial and other nonresidential establishments.
§ 25-1-19. Defective and illegal receptacles.
§ 25-1-20. Portable receptacles.
§ 25-1-21. Stationary and large movable receptacles.
§ 25-1-22. Location of receptacles.
§ 25-1-23. Space on private property required for receptacles.
§ 25-1-24. Garbage and rubbish chutes.
§ 25-1-25. Rubbish rooms.
§ 25-1-26. Deposit of garbage, rubbish, etc., in receptacles belonging to other persons or in defective, etc., receptacles prohibited.

Division 4. Collection and Charges Therefor.

§ 25-1-27. Collections, etc., restricted.
§ 25-1-28. Domestic waste.
§ 25-1-29. Commercial waste.
§ 25-1-30. Charges—Collection of commercial waste.
§ 25-1-31. Same—Disposal of garbage and rubbish.
§ 25-1-32. Contracts for removal of commercial or construction waste—Authority of commissioner of public works; payments.
§ 25-1-33. Same—Breach of contract; discontinuance of service not to authorize accumulations of refuse.

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[1] As to disposal of offal, feathers and other waste materials in slaughterhouses, see § 24-4-20 of this Code. As to health and sanitation generally, see ch. 28. As to disposal of garbage and trash at public markets, see § 33-1-16. As to rubbish and garbage from sale of produce on sidewalks, see § 58-3-19. As to vehicles hauling dirt, straw and other refuse, see §§ 60-3-1 to 60-3-3. As to receptacles for waste matter in house trailer camps, see § 62-2-19.

§ 25-1-34. Usable waste may be collected free of charge by city.
§ 25-1-35. Collection conditional on observance of article; frequency of collections.

Division 5. Litter.

§ 25-1-36. Depositing litter in public places.
§ 25-1-37. Use of public receptacles; scattering of wastepaper, etc., on public or private property.
§ 25-1-38. Duty of property owners to keep premises and adjoining public property free from litter.
§ 25-1-39. Dumping of fill dirt, etc.
§ 25-1-40. Use of sand, ashes, etc., on ice and snow.
§ 25-1-41. Responsibility for litter in multiple dwellings.
§ 25-1-42. Dumping of litter in public waters.
§ 25-1-43. Removal of litter and assessment of costs therefor.

Article II. Private Garbage Collectors.

§ 25-2-1. Definitions.
§ 25-2-2. Unauthorized collection, transportation, etc.
§ 25-2-3. License—Required.
§ 25-2-4. Same—Application.
§ 25-2-5. Same—Investigation of applicant.
§ 25-2-6. Same—Issuance; fee; expiration date; transferability.
§ 25-2-7. Same—Grounds for refusal to issue or revocation.
§ 25-2-8. Same—Vehicle license plates.
§ 25-2-9. Specifications for vehicles.
§ 25-2-10. Information required on vehicles.

Article III. Public Dumps.

§ 25-3-1. Supervision by department of public works.
§ 25-3-2. Taking materials from dumps and trespassing thereon without permission prohibited.
§ 25-3-3. Sorting of rags, papers, etc., prohibited.
§ 25-3-4. Permit required to dump earth, etc., on public dumps.

Article IV. Garbage Disposals.

§ 25-4-1. Definitions.
§ 25-4-2. Intent and purpose of article.
§ 25-4-3. Disposal equipment required in certain structures.
§ 25-4-4. Equipment to comply with other applicable regulations of city.
§ 25-4-5. Commissioner to keep list of approved equipment.
§ 25-4-6. Enforcement of article.

Article V. Weed Control.

§ 25-5-1. "Poisonous or injurious weeds" defined; same declared common nuisance.
§ 25-5-2. Growth of certain weeds and brush prohibited.
§ 25-5-3. Abatement of weeds and brush in violation of article.
§ 25-5-4. Enforcing officers granted access to premises; obstruction of officers prohibited; liability of officers in action of trespass.
§ 25-5-5. City reserves right to reject claims for damages.
§ 25-5-6. Enforcement of article.

Article I. Collection and Disposal of Municipal Waste.[2]

Division 1. Generally.

Sec. 25-1-1. Definitions.

For the purposes of this article, the following words and phrases shall have the meanings respectively ascribed to them by this section:

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[2] For charter provisions as to duty of commissioner of public works to supervise collection and disposal of garbage, see Char., tit. 4, ch. 8, § 5(n).

Approved. That which the enforcing officer designated as acceptable, having been by demonstration or test proven workable and safe for its intended use.

Commercial waste. The miscellaneous waste material such as garbage, rubbish and ashes resulting from operation of business enterprises, and institutions. Such term includes construction waste, but excludes trade waste.

Construction waste. Waste from building construction, alteration, demolition or repair and dirt from excavations.

Domestic waste. The waste material resulting from the usual routine of housekeeping except from multiple dwellings of more than four units. Such term includes garbage, rubbish and ashes.

Enforcing officer. Any commissioner specified in section 25-1-3 or his duly authorized representative.

Garbage. All waste animal, fish, fowl, fruit or vegetable matter incident to the use, preparation and storage of food. Such term includes spoiled food, but excludes food in containers of nonburnable nature.

Litter. Any garbage, rubbish, waste material or other substance placed or allowed to remain on the ground or in any other manner constituting a nuisance.

Municipal waste. Certain discarded products incident to housekeeping and commercial enterprises, as further defined in this section. Municipal waste shall be classified as domestic waste or as commercial waste.

Rubbish. The miscellaneous solid waste material resulting from housekeeping and ordinary mercantile enterprises. Such term includes, among other items, packing boxes, cartons, excelsior, paper, ashes, cinders, tin cans, bottles, glassware, earthenware, rubber, rags, wood bedding, straw, leather, automobile tires, auto parts, bedsprings, grass, leaves, furniture, barrels, etc.

Trade waste. The waste material resulting from industrial operations. Trade waste is not classified as municipal waste.

Other terms. The definition of other terms shall be identical with definitions in the Building Code and Zoning Ordinance of the city. (Ord. No. 660-F, Art. II, §§ 201 to 207; Ord. No. 442-G, § 1; Ord. No. 573-G, § 1.)

Sec. 25-1-2. Purpose and intent of article.

It is the intent of the common council that this article be liberally construed for the purpose of providing a sanitary and satisfactory method of preparation, collection and disposal of municipal wastes and the maintenance of public and private property in a clean, orderly and sanitary condition for the peace, health and safety of the community. (Ord. No. 660-F, Art. I, § 101.)

Sec. 25-1-3. Authority of commissioners of certain departments to adopt rules and regulations; enforcement of article.

The enforcement of this article shall be the duty of the commissioner of public works, the commissioner of health, the commissioner of police and the commissioner of buildings and safety engineering, who are hereby jointly authorized to adopt reasonable regulations to carry out the intent of this article. (Ord. No. 660-F, Art. I, § 102.)

Sec. 25-1-4. Deposit of dangerous substances in public places prohibited; disposition of medicines, drugs, etc.[3]

No person shall deposit, leave or allow to remain in any public street, alley or public place or any private place or premises any glass, metal, stone, earthenware, tacks, nails, cinders, medicine, poisons or other substance of a nature likely to cause injury to children, travelers or pedestrians or to injure any horse or other animal or which might damage any vehicle. No person shall dispose of any medicine, drug, or remedy containing a drug of any kind whatsoever, whether it is in a liquid, tablet, capsule, pill or other form, by throwing or placing the same in a trash container or other container or upon any street, highway, boulevard, alley or public place or on any private property in the city. Medicines or poisons from domestic sources, hospitals, clinics, convalescent homes, nursing homes and similar sources shall be disposed of by flushing into a water closet or other fixture or otherwise disposed of in a manner acceptable to the commissioner of health. (Ord. No. 660-F, Art. VII, § 703.)

Sec. 25-1-5. Transportation of garbage, rubbish, etc., through streets.

Every vehicle conveying garbage, rubbish or other substance shall be loaded and operated in a manner which will prevent a litter nuisance. The load shall be covered with a tarpaulin or other material when necessary to prevent contents from blowing off, spilling or otherwise creating litter. (Ord. No. 660-F, Art. VI, § 602.)

Sec. 25-1-6. Punishment for violation of article does not authorize continuance of violation.

Each day that a violation of this article is continued or permitted to exist shall constitute a separate offense, punishable, upon conviction, in the manner prescribed in section 25-1-2. The imposition of any sentence for a violation of this article shall not be construed as excusing or permitting the continuance thereof. The imposition of a sentence under this article shall not in any way deny or impair the authority of the enforcing departments to proceed as set forth in sections 39-1-40 to 39-1-42. (Ord. No. 660-F, Art. VIII, § 802.)

Division 2. Separation and Disposal.

Sec. 25-1-7. Separation of waste material for collection by city.

Municipal waste material shall be collected by the department of public works; garbage and rubbish from commercial or other nonresidential establishments shall not be mixed with domestic garbage or rubbish, but shall be stored in receptacles provided by each individual establishment. The commissioner of public works shall have authority to designate other methods of separation in specified areas. (Ord. No. 660-F, Art. III, § 301; Ord. No. 319-G, § 1.)

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[3] As to gratuitous distribution of medicine, etc., in public places, see § 28-1-4 of this Code.

Sec. 25-1-8. Domestic garbage to be drained and wrapped; storage of same in uncovered receptacles prohibited; burning of same.

All garbage intended for collection shall be drained of all free liquid. The garbage shall be wrapped in several thicknesses of paper. No garbage or food waste of any description shall be placed or stored in an uncovered receptacle, nor shall garbage be burned in any receptacle or unapproved incinerator. (Ord. No. 660-F, Art. III, § 302.)

Sec. 25-1-9. Garbage from commercial establishments to be drained; storage in uncovered receptacles prohibited; burning of same.

Garbage intended for collection from establishments for group eating, such as clubs, restaurants and institutions, and establishments such as markets, commission houses, grocery stores, fruit and vegetable stands, bakeries, canneries, butcher shops and similar establishments need not be wrapped. Properly stored commercial garbage shall be collected by the department of public works under such rules and regulations as the commissioner of public works shall from time to time establish. Undrained garbage of liquid or semiliquid nature will not be collected, whether in containers or not. No garbage or food waste of any description shall be placed or stored in an uncovered receptacle, nor shall garbage be burned in any receptacle or unapproved incinerator. (Ord. No. 660-F, Art. III, § 303.)

Sec. 25-1-10. Collection of domestic and commercial rubbish; burning of rubbish.

Properly stored domestic rubbish shall be collected by the department of public works. Commercial rubbish collected by the department of public works shall be subject to the requirements of sections 25-1-29 through 25-1-33. The burning of rubbish in open fires is prohibited, except under a permit issued by the department of buildings and safety engineering. (Ord. No. 660-F, Art. III, § 304.)

Sec. 25-1-11. Small dead animals to be collected by city; responsibility of owner for disposal of dead animals weighing over one hundred pounds.

All small dead animals, if kept separate from garbage and rubbish, will be collected without charge upon notice to the department of public works; provided that a charge will be made by the department of public works for all such animals collected from animal hospitals, kennels, and the like. Owners shall be responsible for the removal and disposal of large dead animals weighing over one hundred pounds. (Ord. No. 660-F, Art. III, § 305.)

Sec. 25-1-12. Manure.

Animal and fowl manure and other noxious wastes from commercial establishments shall be considered as commercial rubbish, and, after due notice, the department of public works shall be responsible for its collection and disposal on the terms and conditions provided by this article for commercial waste. Manure from domestic pets shall be properly wrapped and placed in rubbish receptacles. (Ord. No. 660-F, Art. III, § 306.)

Sec. 25-1-13. Bulk rubbish.

Rubbish that is larger than can be contained in the receptacles shall be securely tied in compact bundles, not to exceed one hundred pounds in weight, and placed in a location convenient for collection. Large bulky items, such as refrigerators, stoves, beds, crates, etc., will require notification of and arrangement with the department of public works for a special pickup or an estimate of charges. (Ord. No. 660-F, Art. III, § 307.)

Sec. 25-1-14. Cuttings of brush, shrubbery, etc.

Cuttings of brush, shrubbery and tree branches shall be collected; provided, they do not exceed three feet in length, ten inches in diameter or a total of one hundred pounds in weight and are free from wire or other metal. It shall be the duty of the owner, tenant, occupant or person in control of the premises to arrange for the disposal of trees, tree stumps and all other cuttings as commercial rubbish personally or by agreement with the landscape contractor or other workman engaged to cut the same. (Ord. No. 660-F, Art. III, § 308.)

Sec. 25-1-15. Infectious materials.

All materials which may be infectious, such as bandages, dressings, sputum cups, soiled tissues, etc., from hospitals, clinics, convalescent homes, nursing homes, doctors' offices or any other source, shall be burned in an incinerator approved by the department of buildings and safety engineering. Where incineration approval cannot be granted by the department of buildings and safety engineering, these infectious materials shall be wrapped and placed into the rubbish receptacle or otherwise disposed of in a manner acceptable to the commissioner of health. (Ord. No. 660-F, Art. III, § 309.)

DIVISION 3. RECEPTACLES.

Sec. 25-1-16. Single or two-family dwellings.

A proper and sufficient number of portable receptacles, as defined in this article, for the storage of garbage and of rubbish between collections shall be provided by each family residing in a single-family dwelling or in a two family dwelling. It shall be the duty of the occupants to maintain such receptacles in good repair and in a clean and satisfactory condition and to store rubbish and garbage properly therein. (Ord. No. 660-F, Art. IV, § 401.)

Sec. 25-1-17. Multiple dwellings.

In the case of a building housing more than two families, the owner, lessee or agent of the premises shall provide for each family a proper and sufficient number of receptacles for the storage of garbage and of rubbish between collections. The owner, lessee, agent or caretaker of such receptacles shall maintain them in good repair and in a clean and satisfactory condition. Unless a permit for a stationary or large movable receptacle has been issued, as specified in section 25-1-21, subsection (f), these receptacles shall be of a portable type as defined in section 25-1-20. (Ord. No. 660-F, Art. IV, § 402.)

Sec. 25-1-8. Domestic garbage to be drained and wrapped; storage of same in uncovered receptacles prohibited; burning of same.

All garbage intended for collection shall be drained of all free liquid. The garbage shall be wrapped in several thicknesses of paper. No garbage or food waste of any description shall be placed or stored in an uncovered receptacle, nor shall garbage be burned in any receptacle or unapproved incinerator. (Ord. No. 660-F, Art. III, § 302.)

Sec. 25-1-9. Garbage from commercial establishments to be drained; storage in uncovered receptacles prohibited; burning of same.

Garbage intended for collection from establishments for group eating, such as clubs, restaurants and institutions, and establishments such as markets, commission houses, grocery stores, fruit and vegetable stands, bakeries, canneries, butcher shops and similar establishments need not be wrapped. Properly stored commercial garbage shall be collected by the department of public works under such rules and regulations as the commissioner of public works shall from time to time establish. Undrained garbage of liquid or semiliquid nature will not be collected, whether in containers or not. No garbage or food waste of any description shall be placed or stored in an uncovered receptacle, nor shall garbage be burned in any receptacle or unapproved incinerator. (Ord. No. 660-F, Art. III, § 303.)

Sec. 25-1-10. Collection of domestic and commercial rubbish; burning of rubbish.

Properly stored domestic rubbish shall be collected by the department of public works. Commercial rubbish collected by the department of public works shall be subject to the requirements of sections 25-1-29 through 25-1-33. The burning of rubbish in open fires is prohibited, except under a permit issued by the department of buildings and safety engineering. (Ord. No. 660-F, Art. III, § 304.)

Sec. 25-1-11. Small dead animals to be collected by city; responsibility of owner for disposal of dead animals weighing over one hundred pounds.

All small dead animals, if kept separate from garbage and rubbish, will be collected without charge upon notice to the department of public works; provided that a charge will be made by the department of public works for all such animals collected from animal hospitals, kennels, and the like. Owners shall be responsible for the removal and disposal of large dead animals weighing over one hundred pounds. (Ord. No. 660-F, Art. III, § 305.)

Sec. 25-1-12. Manure.

Animal and fowl manure and other noxious wastes from commercial establishments shall be considered as commercial rubbish, and, after due notice, the department of public works shall be responsible for its collection and disposal on the terms and conditions provided by this article for commercial waste. Manure from domestic pets shall be properly wrapped and placed in rubbish receptacles. (Ord. No. 660-F, Art. III, § 306.)

ceptacles shall be responsible for obtaining the approval of each size and model before it is made available for sale and installation within the city. Each such stationary receptacle hereafter installed shall have a capacity of not less than two hundred fifty gallons and not more than five hundred gallons, unless special permission is granted by the enforcing officer for a receptacle of other size.

(b) *Identification and labeling.* Stationary receptacles shall be legibly and permanently labeled with the following information:

(1) The name of the manufacturer.
(2) The capacity of the receptacles in gallons.
(3) "No Burning" or equivalent.
(4) Appropriate symbols on both the front and the rear to designate use for either garbage or rubbish, as suggested by the enforcing officer, in letters at least three inches high.

(c) *Accessibility.* The owner or installer of every stationary receptacle shall install the receptacle so that both doors are accessible for use. Any space existing between any side of such receptacle and any adjacent receptacle, building or other object shall be at least twelve inches in least dimension, unless the space is small enough to be effectively sealed.

(d) *Steps.* Any receptacle with the top reception door located over forty-two inches above the adjacent ground after installation shall have approved steps or platforms. Steps shall be maintained in good repair and in a safe condition at all times.

(e) *Restrictions on use.* All receptacles for the storage of garbage, rubbish and ashes shall be of a portable type, as defined in section 25-1-20. Where a caretaker is designated, as required in section 25-1-41, the enforcing officer may approve an application and permit for the use of large movable receptacles at the following building occupancies:

(1) For storage of rubbish or garbage in dwellings containing five families or more.

(2) For storage of garbage from an individual commercial establishment whose monthly bill for garbage collection from the city establishes the need for nine or more portable legal garbage cans of twenty-six gallons capacity between collections.

(3) For storage of rubbish from an individual commercial establishment whose monthly bills for waste collection from the city establishes the need for a total of nine or more legal portable cans of twenty-six gallons capacity between collections.

(f) *Permits required—New installations.* Where large movable receptacles are authorized, they shall not be installed until a permit has been obtained from the department of public works. A permit shall be issued only after payment of a fee not to exceed five dollars. Sufficient receptacles shall be provided to hold a three weeks' accumulation of garbage and rubbish and they shall be maintained on a concrete slab as approved by the department of public works.

(g) *Same—Existing receptacles.* An existing installation of one or more stationary receptacles may be continued in use if each has between one hundred gallons and five hundred gallons capacity, is maintained in good repair and is on a rat wall or slab, as required by the enforcing officer.

This shall apply only to premises that meet all "limited use" requirements specified in subsection (e) of this section. An application for a permit for an existing receptacle may be approved by the enforcing officer after he has determined that the location is conveniently accessible for use and collection service. Any receptacle relocated to another multiple dwelling or commercial establishment shall be subject to all requirements for a new receptacle. (Ord. No. 660-F, Art. IV, § 405; Ord. No. 569-G, § 1.)

Sec. 25-1-22. Location of receptacles.

Receptacles shall be conveniently accessible for collection service and for all users. All receptacles for garbage and rubbish shall be located on private property, except on collection days. All trash burners shall be kept on private property, except while being used and attended. In alley collection areas, the receptacles shall be located as near as possible to the alley line but not in any alley, street or other public property; except, that where it has been deemed impractical by the enforcing officer to provide access to the receptacles on private property, revocable permission may be granted for the storage of receptacles on public property. The commissioner of public works shall have the authority to designate the location from which receptacles shall be serviced. A notice of any change in location where receptacles are to be placed for service shall be given to all persons concerned before the change is put into effect. (Ord. No. 660-F, Art. IV, § 406; Ord. No. 319-G, § 1.)

Sec. 25-1-23. Space on private property required for receptacles.

To insure sufficient space for the storage of garbage and rubbish receptacles, there shall be provided and maintained on private property an open or unoccupied space not less than fifty square feet in area, directly adjoining the street or alley where service is rendered, which is accessible through a passageway not less than three feet wide from the exit of any building to such street or alley. In the case of a commercial building where compliance with this requirement is impracticable, an approved rubbish room may be provided in lieu of outside space. No person shall obstruct access to receptacles. (Ord. No. 660-F, Art. IV, § 406.1.)

Sec. 25-1-24. Garbage and rubbish chutes.

After February 8, 1962, garbage and rubbish chutes shall not be installed unless a permit is obtained from the department of buildings and safety engineering. Existing garbage and rubbish chutes shall not be used unless in combination with an incinerator acceptable to the department of buildings and safety engineering. Any other garbage and rubbish chute shall be effectively sealed to prevent its use or shall be removed from the premises. (Ord. No. 660-F, Art. IV, § 407.)

Sec. 25-1-25. Rubbish rooms.

The location, capacity and use of any new or existing room for storage of municipal waste for collection by the department of public works shall be subject to approval, and such room shall be used only for storage of portable receptacles and not for bulk storage of waste. Rubbish rooms or refuse bins shall be constructed only in accordance with requirements of the Building Code. (Ord. No. 660-F, Art. IV, § 408.)

Sec. 25-1-26. Deposit of garbage, rubbish, etc., in receptacles belonging to other persons or in defective, etc., receptacles prohibited.

No person shall deposit garbage, rubbish or other materials in receptacles belonging to other persons or premises, nor in any defective or illegal receptacles. (Ord. No. 660-F, Art. VII, § 701.)

Division 4. Collection and Charges Therefor.

Sec. 25-1-27. Collections, etc., restricted.

It shall be unlawful for any person, other than employees of the department of public works, licensed garbage and rubbish collectors or other authorized persons, to disturb, collect or in any other manner interfere with garbage and rubbish placed in the streets, alleys and public places for collection by the city authorities, or to interfere in any manner with any garbage and rubbish receptacles. The commissioner specified in section 25-1-3, shall have the right to specify the time and methods of storage, collection and disposal by an authorized collector. (Ord. No. 660-F, Art. VI, § 601.)

Sec. 25-1-28. Domestic waste.

Domestic waste shall be collected without charge; except that waste material scattered on the ground or placed in other than proper receptacles as specified in sections 25-1-16 to 25-1-26 may be classed as commercial waste and may be charged for at special rates to be determined by the commissioner of public works and approved by the common council. (Ord. No. 660-F, Art. V, § 501.)

Sec. 25-1-29. Commercial waste.

The department of public works shall collect garbage and rubbish from a commercial establishment, and other commercial waste subject to payment therefor as provided in this article. Nothing contained in this article shall be construed to prohibit the party responsible for creating commercial waste from entering into a contract with an authorized private collector or otherwise disposing of such waste, provided it is stored and disposed of in such a manner as to create no nuisance. (Ord. No. 660-F, Art. V, § 502; Ord. No. 442-G, § 1; Ord. No. 571-G, § 1.)

Sec. 25-1-30. Charges—Collection of commercial waste.

The commissioner of public works, with the approval of the common council, shall from time to time determine rates for the service of collection of commercial wastes. These rates shall provide for an exemption of not to exceed twenty bushels of commercial rubbish or two hundred gallons of commercial garbage in any calendar month from any one establishment, provided this establishment has entered into an agreement to pay for amounts collected in excess of such exemption. (Ord. No. 660-F, Art. V, § 503.)

Sec. 25-1-31. Same—Disposal of garbage and rubbish.

The commissioner of public works, with the approval of the common council, shall from time to time establish rates which shall be charged for the disposal of all commercial garbage, commercial rubbish or other wastes delivered to a city-operated incinerator or other disposal location approved by the commissioner. (Ord. No. 660-F, Art. V, § 504.)

Sec. 25-1-32. Contracts for removal of commercial or construction waste —Authority of commissioner of public works; payments.

The commissioner of public works may enter into a contract with a party responsible for creating commercial waste or construction waste. This contract shall provide for payment in accordance with the approved rates for all wastes collected or received by the department of public works. Payment shall be made on the basis of periodic billing, and shall be due in full within thirty days from first date of each bill; provided, that payment may be made by surrender of collection tickets purchased from the department of public works. (Ord. No. 660-F, Art. V, § 505.)

Sec. 25-1-33. Same—Breach of contract; discontinuance of service not to authorize accumulations of refuse.

Should any party, having entered into a contract as provided in section 25-1-32, fail to pay for service rendered by the city within thirty days after the date of bill, the department of public works shall be relieved of all obligation to continue to render service to such party. In the event of discontinuance of service, the party responsible for creating the waste shall immediately take effective action as needed to dispose of the wastes in a legal manner without creation of a nuisance. Existence of litter for twenty-four hours or more, as a result of failure to take such action, shall be prima facie evidence of violation of this article. Discontinuance of service by the department of public works shall not constitute a valid defense in any action brought against such establishment or party for violation of any provisions of this article or for nonpayment of indebtedness. (Ord. No. 660-F, Art. V, § 506.)

Sec. 25-1-34. Usable waste may be collected free of charge by city.

Clean cinders, broken masonry, slag, gravel, sand, stone, combustible rubbish or other waste materials, which may be wanted for use by the department of public works, may be collected or received at no charge to the producer; but such materials, if of commercial origin and not wanted for use at that time by the department of public works, shall be classified as commercial rubbish and may be removed or received at prevailing rates. (Ord. No. 660-F, Art. V, § 507.)

Sec. 25-1-35. Collection conditional on observance of article; frequency of collections.

The collection of all municipal waste is made conditional to the observance of all provisions of this article. Collection is subject to weather and other conditions beyond the control of the department of public works. For commercial, construction or trade wastes, the department of public works shall have the right to determine whether collections shall be made. Collection frequency shall be determined by the department of public works. (Ord. No. 660-F, Art. V, § 508.)

Division 5. Litter.[4]

Sec. 25-1-36. Depositing litter in public places.

No person shall deposit or cause to be deposited any litter on any street, sidewalk, alley, public or private property, except on approved private or public dumps, or except in accordance with section 25-1-39. (Ord. No. 660-F, Art. VII, § 701.)

Sec. 25-1-37. Use of public receptacles; scattering of wastepaper, etc., on public or private property.

Public receptacles are for use of pedestrians only, and shall not be used by vendors or by occupants of adjacent premises. Newspapers, handbills and wastepaper or other litter shall not be scattered or thrown upon public or private property, but shall be deposited in private or public receptacles. (Ord. No. 660-F, Art. VII, § 702.)

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[4] As to depositing of rubbish, filth, etc., in public parks, see § 42-1-14 of this Code. As to throwing stones, etc., into pools, etc., in parks, see § 42-1-15. As to duty of street vendors to pick up wrappers, papers, etc., see § 43-1-18. As to throwing refuse, garbage, etc., on streets and other public places, see § 58-1-13. As to dropping of oil on asphalt pavements, see § 58-1-22. As to dirt, etc., on sidewalks, see § 58-3-4.

Sec. 25-1-38. Duty of property owners to keep premises and adjoining public property free from litter.

It shall be the duty of the owner or person in control of any premises, vacant or occupied, to keep his premises, sidewalks and all adjoining public property between the center of street and center of alley free of litter at all times. All litter removed shall be placed in proper receptacles or removed to an approved disposal location. (Ord. No. 660-F, Art. VII, § 704.)

Sec. 25-1-39. Dumping of fill dirt, etc.

Earth or other materials shall not be placed on or removed from any premises unless the written permission of the owner of such land is obtained and exhibited on request of the enforcing officer by the operator of the vehicle used for loading, transporting or dumping such material. Such permission shall be subject to zoning regulations and to the requirement that no nuisance shall be created. (Ord. No. 660-F, Art. VII, § 705.)

Sec. 25-1-40. Use of sand, ashes, etc., on ice and snow.[5]

When ice or snow has accumulated on sidewalks and it is impossible to remove the same by usual methods, sawdust, salt, sand, ashes or cinders shall be sprinkled in sufficient quantities to make such sidewalks safe for use. The scattered materials must be cleaned off and disposed of as provided in this article immediately upon removal of the hazard. (Ord. No. 660-F, Art. VII, § 706.)

Sec. 25-1-41. Responsibility for litter in multiple dwellings.

In every multiple dwelling occupied by five families and over in which the owner does not reside, there shall be a responsible person designated as such by the owner. This person and the owner shall be severally and jointly responsible for maintaining the entire premises including the yards and one half of the alley, street and any easement adjoining such dwelling free of all litter. (Ord. No. 660-F, Art. VII, § 707.)

Sec. 25-1-42. Dumping of litter in public waters.[6]

No person shall deposit or cause to be deposited any litter in the waters of the Detroit River, the Rouge River or any of their tributaries or connected waterways in the city, whether from the shore or from any vessel or other craft in passage or moored. (Ord. No. 660-F, Art. VII, § 708.)

Article II. Private Garbage Collectors.

Sec. 25-2-1. Definitions.

For the purposes of this article, the following terms shall have the meanings respectively ascribed to them by this section:

Garbage. All waste, animal, fish, fowl, fruit or vegetable matter incident to the use, preparation and storage of food. Such term includes spoiled food, but excludes food in containers of nonburnable material.

Rubbish. The miscellaneous solid waste material resulting from housekeeping and ordinary mercantile enterprises and includes, among other items, packing boxes, cartons, excelsior, paper, ashes, cinders, tin cans, bottles, glassware, earthenware, rubber, rags, wood, bedding, straw, leather, automobile tires, auto parts, bedsprings, grass, leaves, furniture, barrels, etc. (Ord. No. 768-F, §§ 1.1, 1.2.)

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[5] As to snow and ice removal from sidewalks, see § 58-3-1 of this Code.

[6] As to throwing of waste matter, etc., into waters of public parks, see § 42-2-3 of this Code.

Sec. 25-2-2. Unauthorized collection, transportation, etc.

It shall be unlawful for any person, except an employee of the city or a person who is duly licensed, to collect, disturb or transport any garbage or rubbish placed in the streets, alleys or public places of the city. (Ord. No. 768-F, § 1.)

Sec. 25-2-3. License—Required.

Every person desiring to engage in the collection and transportation of garbage or rubbish through the streets and alleys of the city shall obtain a license from the mayor as provided in this article. (Ord. No. 768-F, § 2.)

Sec. 25-2-4. Same—Application.

A written application for a license required by this article shall be obtained from the commissioner of public works. The application shall state the number, make and type of transport vehicle, the places of collection and the schedule of such collections for garbage or rubbish. The places of collection and the schedule of such collections are hereby made confidential, and any person disclosing such information, except for official purposes, shall be subject to the penalties of section 1-1-7. (Ord. No. 768-F, § 3.)

Sec. 25-2-5. Same—Investigation of applicant.

The commissioner of public works shall investigate each applicant for a license under this article as to the type of vehicle to be used, and forward the application to the commissioner of police, who shall investigate the applicant's background, or if a corporation, the officers thereof, for conviction of any criminal statute or violation of any provision of this Code or other city ordinance. (Ord. No. 768-F, § 4.)

Sec. 25-2-6. Same—Issuance; fee; expiration date; transferability.

Upon receipt of the written reports of the commissioner of public works and the commissioner of police, the mayor may issue a license upon the receipt of twelve dollars and fifty cents for each vehicle to be used for the above purposes stated in this article. Such licenses shall expire on the first day of August of each year. Such licenses shall not be transferable; provided, that subject to the approval of the commissioner of public works, a transfer of a license of an approved vehicle may be effected to an approved transferee. (Ord. No. 768-F, § 5.)

Sec. 25-2-7. Same—Grounds for refusal to issue or revocation.

The mayor may make such further investigations as he deems necessary and may revoke or refuse to issue any license under this article when he finds that the licensee or applicant has been guilty of any of the following:

(a) Has been convicted of a crime involving moral turpitude.

(b) Has operated contrary to the laws of the state or this Code or other ordinances of the city.

(c) Has made deliberate, false or misleading solicitations or representations.

(d) Has followed a pattern of coercion, extortion or intimidation in the procuring or conducting of his business.

Article IV. Garbage Disposals.

Sec. 25-4-1. Definitions.

For the purpose of this article, the following words and phrases shall have the meanings respectively ascribed to them by this section:

Approved. That equipment, method or procedure which the department designates as acceptable, having been by demonstration or test proven workable and safe for its intended purpose.

Commissioner. The commissioner of the department of buildings and safety engineering of the city.

Department. The department of buildings and safety engineering of the city.

Erected. Such term shall mean not only new buildings, but also any addition to a structure or any conversion of use or occupancy of a structure which results either in new or increased production of food wastes; except, the remodeling of kitchens in one or two-family dwellings or the replacements of residential kitchen sinks shall not be included.

Food wastes. Vegetable or animal matter or a combination thereof, produced or developed as the result of preparation, processing, marketing, cooking, serving, distributing, sale, spoilage, decay, deterioration, storage or in any other manner, of food which renders such unfit, undesirable or unacceptable for sale, distribution or for human consumption.

On-the-site disposal. The disposal within the premises by approved methods or system of any food waste produced or developed therein. (Ord. No. 81-F, § 2.)

Sec. 25-4-2. Intent and purpose of article.

The comprehensive plan of this article is for the purpose of promoting the health, safety and general welfare of the community by establishing requirements for on-the-site disposal of waste foods, facilitating the enforcement of sanitation and the elimination of breeding places for vermin, and removing the opportunity for the creation and maintenance of public nuisances which generally inhere in areas where such activity is not properly regulated. (Ord. No. 81-F, § 1.)

Sec. 25-4-3. Disposal equipment required in certain structures.

Structures erected in the city after January 1, 1956, designed, arranged or intended to be used for purposes which cause, result in, produce or develop food wastes, and all structures converted or altered for such purposes, shall provide approved food waste disposal equipment for such purposes within the premises thereof. It shall be unlawful for any person to use, permit or cause to be used any such structure that does not conform to the provisions of this section. (Ord. No. 81-F, § 3.)

Sec. 25-4-4. Equipment to comply with other applicable regulations of city.

The installation, operation and maintenance of any equipment or method to be used for on-the-site disposal of food wastes, shall comply with the applicable provisions and regulations of the building, housing, plumbing, electrical, smoke abatement, air pollution, safety engineering, health, sanitation and fire regulations of the city. (Ord. No. 81-F, § 4.1.)

Sec. 25-4-5. Commissioner to keep list of approved equipment.

The commissioner shall have on file in the department a list of approved food waste disposal equipment. (Ord. No. 81-F, § 5.)

Sec. 25-4-6. Enforcement of article.

The department of buildings and safety engineering, through its officers, inspectors or employees, shall enforce the provisions of this article. (Ord. No. 81-F, § 4.)

Article V. Weed Control.[7]

Sec. 25-5-1. "Poisonous or injurious weeds" defined; same declared common nuisance.

For the purpose of this article, "poisonous or injurious weeds" shall include those species and varieties designated as noxious by Michigan Statutes Annotated, sections 9.631(1) to 9.631(12) (Compiled Laws 1948, sections 247.61 to 247.72). In addition, the following species and varieties of plants are hereby designated as injurious weeds and declared to be a common nuisance: Ragweed (any species of Ambrosia), poison ivy (Rhus radicans), poison sumac (Toxicodendron vernix), poison oak (Toxicondendron quercifolium), marijuana (Cannabis staira) and Belladonna (Amaryllis belladonna). The board of health is hereby empowered to designate and declare, by a written rule or regulation, additional species and varieties of plants as injurious within the meaning of this article, on the basis of implication of such species or varieties as actually or potentially injurious to the public health. All such weeds are also declared to be a common nuisance. (C. O. 1954, ch. 172, § 2.)

Sec. 25-5-2. Growth of certain weeds and brush prohibited.

It shall be unlawful for any owner, occupant, agent or other person having control or management of any land, either public or private, either occupied or vacant, within the city, to allow the presence thereon or on any portion thereof of:

(1) Poisonous or injurious weeds.
(2) Other weeds of any species or variety exceeding one foot in height.
(3) Wild growing brush or underbrush exceeding one foot in height.

(C. O. 1954, ch. 172, § 1; Ord. No. 127-F, § 1.)

Sec. 25-5-3. Abatement of weeds and brush in violation of article.

In any case in which the owner, occupant, agent or other person having control or management of any land allows the presence thereon or on any portion thereof of any weeds or brush in violation of the provisions of section 25-5-2, the enforcing official shall notify by certified or registered mail, with return receipt requested, the owner, occupant, agent or person having control of the land on which noxious weeds are growing to abate the violation within ten working days.

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[7] For state law prohibiting scattering, etc., of noxious weeds, seeds, etc., see M.S.A., § 28.181.

Upon the failure, neglect or refusal of any such owner, occupant, agent or other person to abate the stated violations within the stated time, the enforcing official may assign such employees to enter upon the land and to destroy such weeds or growth by spraying, cutting or by other acceptable methods. And, provided further, that the city shall have a lien upon such lands for such expense, such lien to be enforced in the manner prescribed in the city Charter for the enforcement of tax liens. The commissioner shall not have the power to expend in work or material more than twenty-five dollars on any one lot. Any expense in such abatement, if not paid to the city within sixty days from the date a statement thereof was forwarded to the party, shall be reported to the board of assessors, who shall assess the amount against the land in question; provided, that if the expense for any one parcel or land is not more than five dollars, it shall be charged to appropriate funds of the city; and provided further, that any failure to give such written notice shall not constitute a defense to any action to enforce the provisions of section 25-5-2. (C. O. 1954, ch. 172, § 3; Ord. No. 127-F, § 1; Ord. No. 279-G, § 1.)

Sec. 25-5-4. Enforcing officers granted access to premises; obstruction of officers prohibited; liability of officers in action of trespass.

The enforcing officer and his authorized representatives shall be granted free access to and from any land for the purpose of investigation to determine whether violations of this article exist, and for the work necessary to accomplish the abatement of any violation of this article found to exist. No person shall obstruct or prevent such work. Such authorized representatives, after performing their duties in a prudent manner, shall not be liable for suit in any action of trespass therefor, and shall be defended in any action arising therefrom by the corporation counsel until the final disposition of the proceedings. (C. O. 1954, ch. 172, § 4.)

Sec. 25-5-5. City reserves right to reject claims for damages.

In the event of destruction or damage of vegetation not declared unlawful by this article during the course of normal operations directed at destruction of vegetation declared unlawful by this article growing on the same tract, part or parcel of land, the city reserves the right to reject all claims resulting from such damage. (C. O. 1954, ch. 172, § 5; Ord. No. 127-F, § 1.)

Sec. 25-5-6. Enforcement of article.

The department of public works, through its officers, department heads, inspectors and employees, shall enforce the provisions of this article. (C. O. 1954, ch. 172, § 7; Ord. No. 127-F, § 1; Ord. No. 279-G, § 1.)

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